Hampton Lumber Mills, Inc. – Tillamook
Air Toxics Emissions Inventory

Prepared for:

Hampton Lumber Mills, Inc.

Submitted on:

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TRAVIS QUARLES, VICE PRESIDENT

BRIDGEWATER GROUP, INC.

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1.0 Introduction

Hampton Lumber Mills, Inc., dba Tillamook Lumber Company ("Hampton Tillamook") operates a sawmill at 3111 East 3rd Street in Tillamook, Oregon. On January 2, 2025, the Oregon Department of Environmental Quality's ("DEQ") Cleaner Air Oregon Program ("CAO") called Hampton Tillamook into the CAO program, requiring an Air Toxics Emissions Inventory ("ATEI") be submitted by April 2, 2025. Thereafter, DEQ approved a 30-day extension of the ATEI submittal deadline to May 2, 2025.

A site location map is shown in Figure 1-1. The sawmill currently operates under a Title V Air Operating Permit (#29-0007-TV-01).

This report is being submitted along with the DEQ required Air Toxic Emission Inventory Form (AQ520) to describe the methods and assumptions used for the inventory. Section 3 provides descriptions of each Toxics Emissions Unit ("TEU"), daily and annual maximum projected throughput information, and the emissions calculation methodology for Toxic Air Contaminants ("TACs").

Figure 1-1: Site Location

2.0 Process Information

2.1 Process Overview

Hampton Tillamook receives logs of Hemlock and Douglas fir, which are loaded into the sawmill where they are cut to size before loading into drying kilns. The lumber is dried with non-contact steam, with occasional steam directly added for moisture control. The lumber is then loaded to be cut to final size, inspected, marked, and packaged for transport. The collected wood chips and saw dust from the mill are used as fuel for the boiler, which provides the steam heat for the drying kilns.

2.2 Toxic Emission Units

The inventory of TEUs at the facility is presented in Table 2-1.

Table 2-1: Inventory of TEUs

Source	Permit ID	TEU ID	Description
Hogged Fuel Boiler	B1	BOIL	150,000-pound steam per hour Wellons Fuel Cell-Water Tube unit, controlled by a Multiclone and ESP
Drying Kilns - Hemlock	F6	KILNS-Hem	Seven lumber drying kilns when used for Hemlock*
Drying Kilns – Mixed Species	F6	KILNS-Mixed	Seven lumber drying kilns when used for Douglas fir or when kilns are used for both species *
Truck Shop Diesel Heaters	-	TSDHT1 TSDHT2	500,000 Btu/hr diesel-fired furnace for shop heating 454,000 Btu/hr diesel-fired furnace for shop heating
Ash Handling	-	ASH#	Ash from the boiler is loaded into trucks, stored in a stockpile, and then loaded for offsite shipment
Welding	-	WELD-X	Weld wire used for maintenance
Plasma Cutting	-	PLASMAT PLASMAH	Metal cutting by plasma table and handheld plasma
Torch Cutting	-	TORCH	Metal cutting by torch
Ink Marking and MEK Cleaning	-	INKS	Ink marking onto finished lumber and MEK used for cleaning

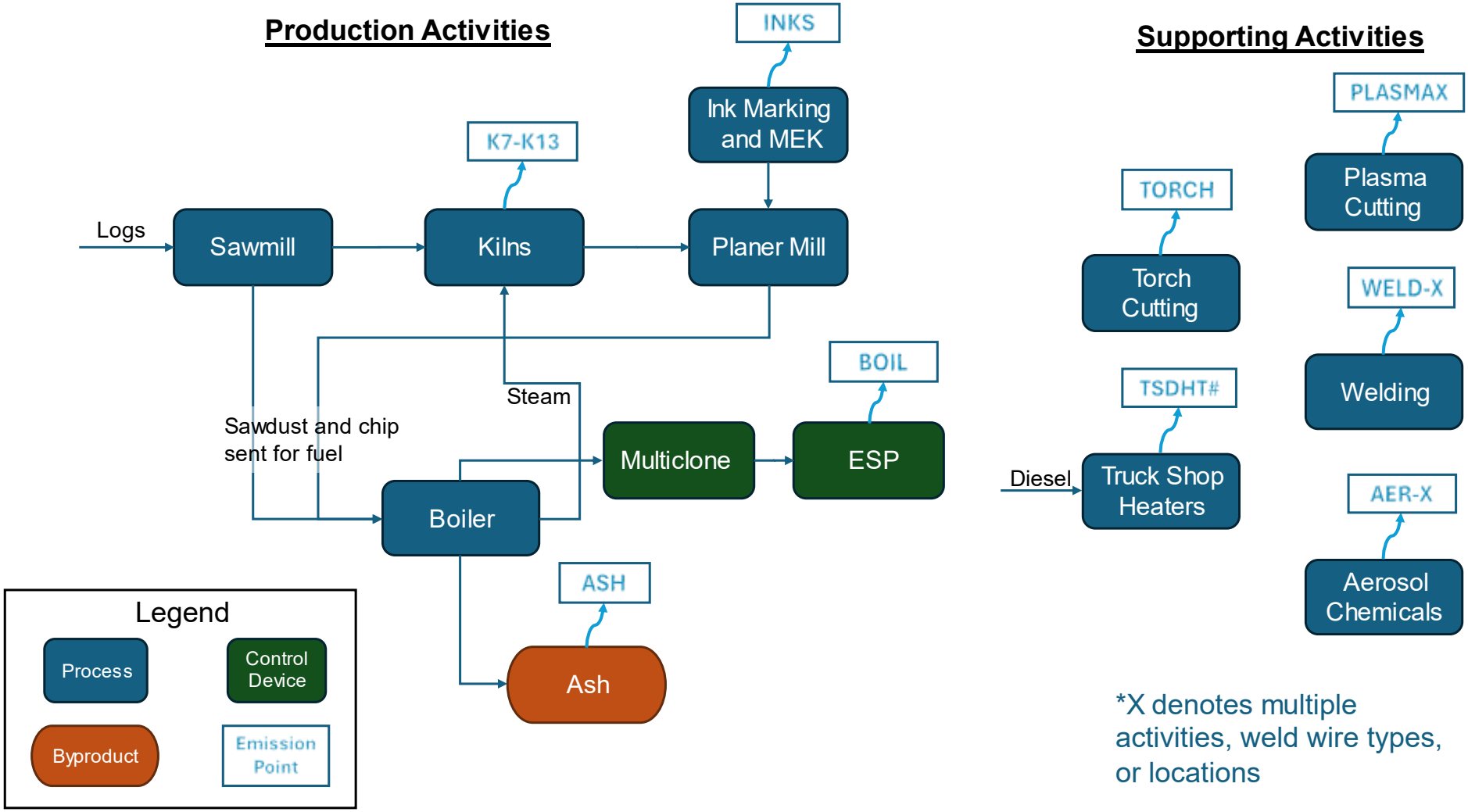
**Note – There are a total of seven drying kilns, which can be used for either Hemlock or Douglas Fir, so there are two TEUs listed for the same kilns, further discussed in Section 3.2.*

 # - There are three transfers, represented by #.

X – Placeholder for different weld wire types

A Process Flow Diagram with emissions units is provided in Figure 2-1.

Figure 2-1: Process Flow Diagram with Emissions Units



3.0 Emission Calculation Methodologies

3.1 Hogged Fuel Boiler

Hampton Tillamook operates a 150,000-pound steam per hour Wellons Fuel Cell-Water Tube boiler, with a rated heat input design capacity of 216 million British thermal units per hour (MMBtu/hour), and with a maximum projected annual heat input of 1,419,120 MMBtu/yr. Emissions factors for TACs are based on two primary sources. Emission factors for hydrogen chloride and mercury are based on an average of four source test results, from January 2016, January 2017, November 2019 and September 2022. The remaining TAC emission factors are from the National Council for Air and Stream Improvement, Inc. ("NCASI") Air Emissions Database – Pulp & Paper, most recently published in 2019. The emission factors for metals are listed as 'metal compounds'. However, the notes provided by NCASI indicate that the emission factors are reported as the base metal. For all metals the NCASI emission factors applied in the inventory use the base metal as the basis for the emission estimate. There are four TACs listed as having zero detections in the NCASI table of emission factors: bromodichloromethane, pyridine, 1,2,4-trichlorobenzene, and 1,1,2-trichloroethane. In accordance with DEQ's Recommended Procedures for Toxic Air Contaminant Health Risk Assessments, these TACs are considered to be not present. Mean values in the NCASI table are used, except where only a single detection is listed as a maximum. Emissions calculations are presented in Table 2 of Appendix A.

3.2 Drying Kilns

Hampton Tillamook operates seven lumber drying kilns, using indirect steam to dry stacks of cut lumber in a batch process. Each Hemlock batch takes 41.5 to 72 hours to complete depending on the kiln and season of the year, while Douglas fir takes 29 to 72 hours. Emissions factors for TACs are based on a maximum drying temperature of 200 °F and DEQ's AQ-EF09, "DEQ HAP and VOC Emission Factors for Lumber Drying, 2021".

Annual

The maximum projected annual amount of lumber dried is 375,000 thousand board feet per year (MBF/yr). The Hemlock emissions factor is greater than that for Douglas fir for four of five TACs: acetaldehyde, acrolein, methanol and propionaldehyde. Therefore, these TAC emissions for the kilns are calculated as maximum annual emissions using only Hemlock. The maximum projected annual amount of Douglas fir lumber dried may be as high as 75,000 MBF/yr, with the remaining 300,000 MBF/yr being Hemlock. The Douglas fir emissions factor is greater than that for Hemlock for one of five TACs: formaldehyde. Therefore, annual maximum formaldehyde emissions for the kilns are calculated using a mixture of Douglas fir and Hemlock, with 75,000 MBF/yr and 300,000 MBF/yr, respectively. A mixed emissions factor is calculated based on this ratio, and then used with the total throughput of 375,000 MBF/yr.

Daily

The maximum projected daily amount of each species dried in the kilns is calculated based on the shortest drying times for each species, scaled to a 24-hour period. For Hemlock, this calculates to 153.0 MBF/day per kiln, or 1071.1 MBF/day for all seven kilns. For Douglas fir, this

calculates to 219.0 MBF/day per kiln, or 1532.7 MBF/day for all seven kilns. Considering these maximum daily throughputs and the respective emissions factors for each species, the Hemlock emissions are greater than that for Douglas fir for three of five TACs: acetaldehyde, acrolein and methanol. Therefore, daily maximum emissions for the kilns for these three TACs are calculated using only Hemlock. Douglas fir results in higher daily emissions for two of five TACs: formaldehyde and propionaldehyde. Therefore, daily maximum emissions for the kilns for these two TACs are calculated using only Douglas fir.

A summary table is provided below for the daily and annual kiln throughputs:

TAC	Daily (MBF/day)	Daily Basis	Annual (MBF/yr)	Annual Basis	TEU ID in AQ520 Form
Acetaldehyde	1071.1	Hemlock	375,000	Hemlock	Kilns-Hem
Acrolein	1071.1	Hemlock	375,000	Hemlock	Kilns-Hem
Formaldehyde	1532.7	Douglas fir	75,000 DF & 300,000 Hem	Mixture	Kilns-Mixed
Methanol	1071.1	Hemlock	375,000	Hemlock	Kilns-Hem
Propionaldehyde	1532.7	Douglas fir	375,000	Hemlock	Kilns-Mixed

Emissions calculations are presented in Table 4 of Appendix A.

3.3 Truck Shop Diesel Heaters (TSDHTs)

The truck shop is heated by two diesel fired heaters:

TSDHT1 - 500,000 Btu/hr, Clean-Burn, Model CB-5000

TSDHT2 – 454,000 Btu/hr, Armstrong Air Conditioning, Model LG14-350/450 B60-2A

Maximum projected annual diesel combustion is 8,000 gallons per year, split equally between TSDHT1 and TSDHT2. The maximum daily combustion rate for TSDHT1 is 3.6 gallons per hour, equating to 86.4 gallons per day, while TSDHT2 has a maximum fuel combustion of 4.0 gallons per hour, or 96.0 gallons per day. Emissions factors are from DEQ's 2024 Combustion Tool for Diesel External Combustion. Emissions calculations are presented in Table 5 of Appendix A.

3.4 Ash Handling

Ash is conveyed by an enclosed drag chain from the boiler to a covered collection bin. When full, the collected ash is dumped with a forklift into a dump truck. When the dump truck is full, the ash is unloaded at the south storage area and stockpiled. During summer months, the stockpiled ash is loaded into trucks via front end loader for transfer offsite and use as a soil amendment.

The emissions points are described below:

1. Transfer of ash from collection bin to dump truck.
2. The ash is then dumped from the truck to a stockpile on the south end of the property.
3. The ash is then loaded into a truck for shipment offsite.

Emissions factors for Transfers 1 and 3 are based on a conveyor transfer point from EPA's AP-42 Table 11.19.2-2, and then applying metals content based on analytical data for ash.

Table 11.19.2-2 (English Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (lb/Ton)[a]

Source [b]	Total Particulate Matter [c,h]	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Fines Screening (controlled) (SCC 3-05-020-21)	0.0036[g]	E	0.0022[g]	E	ND	
Conveyor Transfer Point (SCC 3-05-020-06)	0.0030[i]	E	0.00110[i]	D	ND	
Conveyor Transfer Point (controlled) (SCC 3-05-020-06)	0.00014[d]	E	4.6×10^{-5}	D	1.3×10^{-5}[j]	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0×10^{-5}	E	ND	
Truck Unloading -Fragmented Stone (SCC 3-05-020-31)	ND		1.6×10^{-5}	E	ND	
Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		0.00010[e]	E	ND	

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in lb/Ton of material of throughput. SCC = Source Classification Code. ND = No data.

Transfer 2 emissions are based on EPA's AP-42 Chapter 13.2.4, Equation 1, calculating particulate emissions for a drop operation, and then applying metals content based on analytical data for ash.

The quantity of particulate emissions generated by either type of drop operation, per kilogram (kg) (ton) of material transferred, may be estimated, with a rating of A, using the following empirical expression:[11]

$$E = k(0.0016) \frac{\left(\frac{U}{2.2}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (kg/megagram [Mg])}$$

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (pound [lb]/ton)}$$

where:

E = emission factor
k = particle size multiplier (dimensionless)
U = mean wind speed, meters per second (m/s) (miles per hour [mph])
M = material moisture content (%)

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

Aerodynamic Particle Size Multiplier (k) For Equation 1				
< 30 µm	< 15 µm	< 10 µm	< 5 µm	< 2.5 µm
0.74	0.48	0.35	0.20	0.053[a]

[a] Multiplier for < 2.5 µm taken from Reference 14.

The "k" value selected is 0.35 to represent particle sizes less than 10 microns that could be emitted. The mean wind speed, "U", is 4.7 miles per hour (mph) based on a Tillamook average

wind speed, with an acute emission factor based on the maximum wind speed of 22.7 mph. The material moisture content, “M”, is based on the upper end of the range listed as applicable regards to Equation 1. Analytical data for the ash shows much higher moisture content.

The maximum ash handled is 1250 tons per year, with a daily maximum of 3.5 tons, which is applied to each transfer point. The metals analytical basis is an average of a 2012 sample, and two samples from 2022, with one-half of the detection limit used for non-detect results to be conservative. Emissions calculations are presented in Table 6 of Appendix A.

3.5 Welding

Welding is performed in various locations for maintenance. The maximum projected usages are provided below for type of wire:

Weld Wire Type	Daily (pounds)	Annual (pounds)
FCAW E71T	38	450
SMAW E7018	32	1000
MIG ER70S-6	35	760

Emissions calculations are based on DEQ’s Welding Emission Factor Tool, which is based on EPA’s AP-42 Chapter 12.19. Emissions calculations are presented in Table 7 of Appendix A.

3.6 Plasma Cutting

Plasma cutting of steel plate is performed on a plasma cutting table with a water deck, as well as with a hand-held plasma cutter. Emissions are calculated based on "Emission of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel" by Bromsen B. et al. (1994), included in Appendix C. This method is used to calculate particulate emissions rates based on the thickness of steel plate, cutting kerf width, cutting length per amount of time, and whether the plasma is dry, semidry or wet. The plasma table is considered semidry because the plate is directly above the water table to reduce emissions generation. The handheld plasma cutters are considered dry and therefore assumed to generate a higher percentage of emissions. The mill only cuts mild steel, with a fume composition from Bromsen et al of up to 10% manganese and up to 1.4% copper, for which this EI uses the high end of those ranges.

The annual and maximum daily hours for cutting both plasma cutting activities are provided below:

Plasma Table Hours	1.25	hrs/day max
	225	hrs/yr max
Plasma Handheld Hours	1.25	hrs/day max
	225	hrs/yr max

Emissions calculations are presented in Table 8 of Appendix A.

3.7 Torch Cutting

Torch cutting of metal plate is also performed. Particulate emissions are calculated using an emission factor used at other facilities proceeding through CAO, originally from Versar, Inc., “Title V Applicability Workbook”, 1996, Table D-5 (“Torch Cutting Emission Factors”). The

metals speciation is based on the metal plate cut at the mill (see Appendix C for SDS and material composition from product data sheet). Emissions calculations are presented in Table 9 of Appendix A.

3.8 Ink Printing and MEK Cleaning

Inside the Planer Mill, ink markings are applied to finished boards. Also, methyl ethyl ketone is used for cleaning lenses that are part of the mill's board monitoring system. These chemicals are assumed to be emitted using a material balance where all TACs in the products are emitted. Emissions calculations are presented in Table 10 of Appendix A.

3.9 Diesel Aboveground Storage Tank

Diesel is stored in an aboveground storage tank at ambient temperature and pressure and, therefore, does not need to be reported according to DEQ's guidance titled, *Cleaner Air Oregon Exempt TEU Reporting* dated March 21, 2022 ("Exempt TEU Guidance").

3.10 CIAs No Longer Exempt from CAO Evaluation – Primary Production Activity Supporting Chemical Usage

Per DEQ's Exempt TEU Guidance, facilities need to evaluate whether material usage from activities "principally supporting the primary production activities at a facility" should be reported. Hampton Tillamook uses various aerosol paints and other small-use chemicals in maintenance and repair shops and in the mill, some of which contain TACs. These uses are compared to the various thresholds in the guidance in Table 11 of Appendix A. For the TACs used at the mill and as shown in Appendix A, none are used above their respective thresholds for those listed. There are also a few listed TACs that are not included in DEQ's Guidance and do not have RBCs in OAR 340-245-8010 Table 2. This inventory considers such TACs to be equivalent to being under DEQ's Appendix A thresholds and so these TACs are not reported. The Safety Data Sheets for these chemicals evaluated, including those with TACs without RBCs, are included in Appendix B. Hampton Tillamook relied on the composition sections of Safety Data Sheets for the determination of whether TACs are present, and midpoints of ranges were used for calculations.

Additionally, Hampton Tillamook uses various minor-use chemicals that do not emit TACs, such as Kroil Penetrant, Liquid Wrench Penetrating Oil, CRC Belt Dressing, CRC SP-400, CRC Power Lube, Relton Rapid Tap, Kop-Coat End Shield, Kop-Coat Antifoam Agent 30, and Kop-Coat Workhorse II. Safety Data Sheets for these chemicals are included in Appendix B.

3.11 CIAs No Longer Exempt from CAO Evaluation – Maintenance and Repair Shops

Maintenance and repair shops are used for welding, and plasma and torch cutting, in addition to other minor chemical usage described above.

3.12 CIAs No Longer Exempt from CAO Evaluation – Routine Maintenance, Repair and Replacement

Routine maintenance, repair and replacement activities at the mill include welding, metal cutting, and aerosol can spray painting discussed in other sections. Activities which are non-routine, such as unanticipated repairs or construction activities, are excluded from this inventory.

3.13 CIAs No Longer Exempt – Others

Hampton Tillamook has reviewed the other CIAs no longer categorically exempt under CAO and does not have other TAC emissions to report.

3.14 Categorically Exempt TEUs

There are several categorically exempt toxics emission units (“CETEUs”) for which emissions are not included in the ATEI, with the full list identified in the AQ523 form included in Appendix D.

Appendix A – Supporting Emissions Calculations

- Table 1 – Input Process Rates
- Table 2 – Hogged Fuel Boiler
- Table 3 – Boiler Source Test Results
- Table 4 – Drying Kiln Emissions
- Table 5 – Diesel Truck Shop Heater
- Table 6 – Ash Handling
- Table 7 – Welding
- Table 8 – Plasma Cutting
- Table 9 – Torch Cutting
- Table 10 – Ink Marking
- Table 11 – Miscellaneous Chemical Usage

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 1 - Input Process Rates

Source	Source ID	Units	Max Projected Day	Max Projected Annual	2024 Actual Max Daily	2024 Actual Annual
Boiler	BOIL					
Boiler Steam		1000 lbs	2,760	788,400	2,028	512,845
Boiler Heat Input		MMBtu	5,184	1,419,120	3,793	901,894
Kilns						
Hemlock	KILNS	MBF	1,071.05	375,000	640	200,143
Douglas Fir	KILNS	MBF	1,532.72	75,000	960	19,490
Diesel Truck Shop Heaters						
Diesel (gal) (3.6 gal/hr)	TSDHT1	gal	86.4	4,000	43.2	2,425.7
Diesel (gal) (4.0 gal/hr)	TSDHT2	gal	96.0	4,000	48.0	1,051.6
Ash Handling	ASH					
Ash		tons	3.50	1,250	2.35	769
Welding	WELD					
FCAW E71T		lbs	36	450	0.952	198
SMAW E7018		lbs	32	1000	1.25	260
MIG ER70S-6		lbs	35	760	0.159	33
Plasma Cutting	PLASMA					
Plasma table and handheld		hrs cutting	2.5	450	1.264	263
Torch Cutting	TORCH					
Oxy-acteylene torch		hrs cutting	3	600	1.683	350
Ink Marking and MEK Cleaning	INKS					
IC-234 ink		gal	0.40	40	0.060	11.8
IR-234 make up		gal	0.25	25	0.047	9.19
MC-234 ink		gal	1.00	100	0.16	31.4
WL-210 wash		gal	0.50	50	0.0013	0.26

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 2 - Hogged Fuel Boiler

Emission Factor References: NCASI 2019 except for Hg & HCl which is the average values from 2016, 2017, 2019 & 2022 Boiler MACT testing.

Notes on NCASI Data:
1. The emission factors for metals are listed as 'metal compounds'. However, the notes provided by NCASI indicate that the emission factors are reported as the base metal. DEQ's Form inconsistently identifies the form of the metal. For all metals the emission factors for the base metal will be the basis for the emission estimate.
2. There are four pollutants that are listed as having zero detections in the table of emission factors. They are bromodichloromethane, pyridine, 1,2,4-trichlorobenzene, and 1,1,2-trichloroethane. NDs are considered not reportable.
3. Mean values in the table are used, except where only a single detection is listed as a maximum.
4. "Chromium Compounds" and "m,p Xylene" are listed in NCASI factors, but not listed TACs and are not included; however mixed xylenes are reported.

MPY Production (MMBtu/yr)	Max Daily (MMBtu/day)	Toxic Air Contaminant	CAS	Emission Factor (lb/MMBtu)	MPY Emissions (lbs)	Max Daily Emissions (lbs)	NCASI 2019 Category
1,419,120	**5,184**	Hydrochloric Acid	7647-01-0	3.3040E-05	46.89	0.17	N/A - site-specific source tests, see Table 3
		Mercury and compounds	7439-97-6	1.0540E-06	1.50	0.01	N/A - site-specific source tests, see Table 3
		1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9	9.7600E-12	0.0000139	0.000000051	Boiler - Wood
		1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9	2.4600E-11	0.0000349	0.000000128	Boiler - Wood
		1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6	8.7000E-13	0.0000012	0.000000005	Boiler - Wood
		1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7	2.0900E-12	0.0000030	0.000000011	Boiler - Wood
		1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4	1.3300E-12	0.0000019	0.000000007	Boiler - Wood
		1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3	2.2100E-12	0.0000031	0.000000011	Boiler - Wood
		2,3,7,8-tetrachlorodibenzo-p-dioxin	1746-01-6	9.5300E-13	0.0000014	0.000000005	Boiler - Wood
		1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4	5.7100E-12	0.0000081	0.000000030	Boiler - Wood
		1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0	5.0000E-12	0.0000071	0.000000026	Boiler - Wood
		1,2,3,4,7,8-hexachlorodibenzofuran	70648-26-9	3.5600E-12	0.0000051	0.000000018	Boiler - Wood
		1,2,3,4,7,8,9-heptachlorodibenzofuran	55673-89-7	7.9800E-13	0.0000011	0.000000004	Boiler - Wood
		1,2,3,6,7,8-hexachlorodibenzofuran	57117-44-9	3.1600E-12	0.0000045	0.000000016	Boiler - Wood
		1,2,3,7,8-pentachlorodibenzofuran	57117-41-6	3.9900E-12	0.0000057	0.000000021	Boiler - Wood
		1,2,3,7,8,9-hexachlorodibenzofuran	72918-21-9	6.6700E-13	0.0000009	0.000000003	Boiler - Wood
		2,3,4,6,7,8-hexachlorodibenzofuran	60851-34-5	2.6600E-12	0.0000038	0.000000014	Boiler - Wood
		2,3,4,7,8-pentachlorodibenzofuran	57117-31-4	6.0900E-12	0.0000086	0.000000032	Boiler - Wood
		2,3,7,8-tetrachlorodibenzofuran	51207-31-9	8.0400E-12	0.0000114	0.000000042	Boiler - Wood
		Acenaphthene	83-32-9	8.5300E-07	1.21	0.00	Boiler - Wood
		Acenaphthylene	208-96-8	4.6900E-06	6.66	0.02	Boiler - Wood
		Acetaldehyde	75-07-0	2.8300E-04	401.61	1.47	Boiler - Wood
		Acetophenone	98-86-2	1.8400E-06	2.61	0.01	Boiler - Wood
		Acrolein	107-02-8	2.6000E-04	368.97	1.35	Boiler - Wood
		Anthracene	120-12-7	2.6800E-06	3.80	0.01	Boiler - Wood
		Benzene	71-43-2	9.8000E-04	1390.74	5.08	Boiler - Wood
		Benzo(a)anthracene	56-55-3	8.1300E-08	0.12	0.00	Boiler - Wood
		Benzo(a)pyrene	50-32-8	2.2200E-06	3.15	0.01	Boiler - Wood
		Benzo(b)fluoranthene	205-99-2	1.4200E-07	0.20	0.00	Boiler - Wood
		Benzo(e)pyrene	192-97-2	2.1100E-07	0.30	0.00	Boiler - Wood
		Benzo(g,h,i)perylene	191-24-2	1.5100E-07	0.21	0.00	Boiler - Wood
		Benzo(j)fluoranthene	205-82-3	1.5600E-07	0.22	0.00	Boiler - Wood
		Benzo(k)fluoranthene	207-08-9	5.1800E-08	0.07	0.00	Boiler - Wood
		Beryllium and compounds	7440-41-7	2.8500E-08	0.04	0.00	Boiler - Wood
		Butyl Benzyl Phthalate	85-68-7	2.6800E-05	38.03	0.14	Boiler - Wood
		Carbon Tetrachloride	56-23-5	9.8700E-06	14.01	0.05	Boiler - Wood
		Chlorobenzene	108-90-7	1.6600E-05	23.56	0.09	Boiler - Wood
		Chloroform	67-66-3	2.0100E-05	28.52	0.10	Boiler - Wood
		2-Chlorophenol	95-57-8	2.3500E-08	0.03	0.00	Boiler - Wood
		Chrysene	218-01-9	7.9000E-08	0.11	0.00	Boiler - Wood
		Crotonaldehyde	4170-30-3	4.4800E-05	63.58	0.23	Boiler - Wood
		Cumene	98-82-8	1.7700E-05	25.12	0.09	Boiler - Wood
		Dibenzo(a,h)anthracene	53-70-3	9.5600E-09	0.01	0.00	Boiler - Wood
		Ethyl Benzene	100-41-4	1.2200E-05	17.31	0.06	Boiler - Wood
		Fluoranthene	206-44-0	1.5800E-06	2.24	0.01	Boiler - Wood
		Fluorene	86-73-7	3.0100E-06	4.27	0.02	Boiler - Wood
		Formaldehyde	50-00-0	1.0500E-03	1490.08	5.44	Boiler - Wood
		n-Hexane	110-54-3	2.8800E-04	408.71	1.49	Boiler - Wood
		Hydrogen Cyanide	74-90-8	2.0500E-05	29.09	0.11	Boiler - Wood

MPY Production (MMBtu/yr)	Max Daily (MMBtu/day)	Toxic Air Contaminant	CAS	Emission Factor (lb/MMBtu)	MPY Emissions (lbs)	Max Daily Emissions (lbs)	NCASI 2019 Category
		Indeno(1,2,3-c,d)pyrene	193-39-5	1.0200E-07	0.14	0.00	Boiler - Wood
		Lead and compounds	7439-92-1	5.2100E-06	7.39	0.03	Boiler - Wood
		Methanol	67-56-1	7.3200E-04	1038.80	3.79	Boiler - Wood
		Methylene Chloride	75-09-2	3.9800E-04	564.81	2.06	Boiler - Wood
		Methyl Ethyl Ketone	78-93-3	6.9700E-06	9.89	0.04	Boiler - Wood
		Methyl Isobutyl Ketone	108-10-1	4.4500E-04	631.51	2.31	Boiler - Wood
		2-Methyl Naphthalene	91-57-6	1.4000E-06	1.99	0.01	Boiler - Wood
		Naphthalene	91-20-3	9.9600E-05	141.34	0.52	Boiler - Wood
		Perylene	198-55-0	3.2000E-08	0.05	0.00	Boiler - Wood
		Phenanthrene	85-01-8	6.4600E-06	9.17	0.03	Boiler - Wood
		Phenol	108-95-2	1.6000E-04	227.06	0.83	Boiler - Wood
		Propionaldehyde	123-38-6	3.1100E-04	441.35	1.61	Boiler - Wood
		Pyrene	129-00-0	3.5400E-06	5.02	0.02	Boiler - Wood
		Styrene	100-42-5	4.6900E-04	665.57	2.43	Boiler - Wood
		Toluene	108-88-3	1.1400E-05	16.18	0.06	Boiler - Wood
		Trichloroethylene	79-01-6	1.9900E-05	28.24	0.10	Boiler - Wood
		Vinyl Chloride	75-01-4	1.8400E-05	26.11	0.10	Boiler - Wood
		Xylenes (mixed isomers)	1330-20-7	5.2200E-06	7.41	0.03	Boiler - Wood
		Zinc and compounds	7440-66-6	5.7600E-05	81.74	0.30	Boiler - Wood
		1,1,1-Trichloroethane	71-55-6	5.7800E-05	82.03	0.30	Boiler - Wood
		1,2-Dichloroethane	107-06-2	2.9200E-05	41.44	0.15	Boiler - Wood
		1,2-Dichloropropane	78-87-5	1.6800E-05	23.84	0.09	Boiler - Wood
		1,4-Dichlorobenzene	106-46-7	2.7900E-04	395.93	1.45	Boiler - Wood
		1-Methylphenanthrene	832-69-9	2.5900E-07	0.37	0.00	Boiler - Wood
		2,4,6-Trichlorophenol	88-06-2	2.0000E-07	0.28	0.00	Boiler - Wood
		2,4-Dinitrophenol	51-28-5	1.8000E-07	0.26	0.00	Boiler - Wood
		2,4-Dinitrotoluene	121-14-2	9.4200E-07	1.34	0.00	Boiler - Wood
		3-Methylcholanthrene	56-49-5	8.6800E-09	0.01	0.00	Boiler - Wood
		4,6-Dinitro-2-methylphenol	534-52-1	2.1000E-06	2.98	0.01	Boiler - Wood
		4-Nitrophenol	100-02-7	1.1400E-07	0.16	0.00	Boiler - Wood
		7,12-Dimethylbenz[a]anthracene	57-97-6	4.5700E-09	0.01	0.00	Boiler - Wood
		Acetone	67-64-1	5.2900E-04	750.71	2.74	Boiler - Wood
		Bromomethane	74-83-9	1.1300E-05	16.04	0.06	Boiler - Wood
		Chloromethane	74-87-3	4.3500E-05	61.73	0.23	Boiler - Wood
		Decachlorobiphenyl	2051-24-3	2.6500E-10	0.00	0.00	Boiler - Wood
		Di(2-ethylhexyl) phthalate	117-81-7	4.6500E-08	0.07	0.00	Boiler - Wood
		Dibutyl phthalate	84-74-2	3.3300E-05	47.26	0.17	Boiler - Wood
		Diethyl phthalate	84-66-2	4.3600E-05	61.87	0.23	Boiler - Wood
		Isopropanol	67-63-0	4.5200E-03	6414.42	23.43	Boiler - Wood
		Pentachlorophenol	87-86-5	2.1400E-07	0.30	0.00	Boiler - Wood
		Tetrachloroethylene	127-18-4	2.4600E-05	34.91	0.13	Boiler - Wood
		Trichlorofluoromethane	75-69-4	1.3900E-05	19.73	0.07	Boiler - Wood
		Hydrogen Fluoride	7664-39-3	9.0500E-05	128.43	0.47	Boiler - Wood - Dry Control Devices (BMACT ICR)
		Antimony and compounds	7440-36-0	3.0600E-07	0.43	0.00	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Arsenic and compounds	7440-38-2	1.8900E-06	2.68	0.01	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Cadmium and compounds	7440-43-9	3.2400E-07	0.46	0.00	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Chromium (VI)	18540-29-9	2.7200E-07	0.39	0.00	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Cobalt and compounds	7440-48-4	4.9700E-07	0.71	0.00	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Copper and compounds	7440-50-8	3.7900E-06	5.38	0.02	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Manganese and compounds	7439-96-5	9.5700E-05	135.81	0.50	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Nickel and compounds	365	2.8000E-06	3.97	0.01	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Phosphorus and compounds	504	3.1000E-04	439.93	1.61	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Selenium Compounds	7782-49-2	1.6200E-06	2.30	0.01	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Barium	7440-39-3	2.0900E-04	296.60	1.08	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)
		Vanadium	7440-62-2	5.9400E-07	0.84	0.00	Boiler - Wood w/ESP or Fabric Filter (BMACT ICR)

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 3 - Boiler Source Test Results

	Mercury				
	1/14/2016	1/17/2017	11/6/2019	9/14/2022	Average
Test Result - lb/MMBtu heat input	1.22E-06	8.48E-07	1.36E-06	7.88E-07	1.05E-06

	Hydrogen Chloride				
	1/14/2016	1/17/2017	9/18/2019	9/14/2022	Average
Test Result - lb/MMBtu heat input	6.36E-06	1.33E-05	9.00E-05	2.25E-05	3.30E-05

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 4 - Drying Kiln Emissions

Emission Calculation Methodology:
1. TAC emission factors are from DEQ HAP and VOC Emission Factors for Lumber Drying, 2021, AQ-EF09 assuming a maximum kiln temperature of 200°F.
2. The annual throughputs are based on the permitted PTE of 375,000 MBF, with up to 20% Douglas Fir and the majority being Hemlock. The emissions are calculated using 100% Hemlock for the TACs where Hemlock has the higher emission factor, and using a mix of up to 20% Douglas Fir for Formaldehyde, for which Douglas Fir has a higher emission factor. A mixed annual emission factor is calculated and then applied to the 375,000 MBF.
3. The max daily throughput is calculated based on the quantity of lumber that can be dried assuming all seven kilns are operating for all 24 hours, but accounting for the shortest cycle time required for each species. The equivalent daily production per kiln is calculated per species and then multiplied by the emission factor and then by 7 to account for all kilns. Hemlock is max for acetaldehyde, acrolein and methanol, while Douglas Fir is max for formaldehyde and propionaldehyde.

Requested Kiln Production

	Annual				Max Daily			
	375,000	Hem MBF/yr	75,000	DF MBF/yr		Shortest cycle (hr)	Cycles per yr	Daily Max Production Equiv. Per Kiln
	264.6	MBF/cycle/kiln	1,852.0	MBF/day for 7 kilns	**DF**	29	302.1	219.0 DF MBF/day/kiln
	24	hrs/day			**Hemlock**	41.5	211.1	153.0 Hem MBF/day/kiln
Max Drying Temp	200	°F						1532.72 DF MBF/day for 7 kilns
								1071.05 Hem MBF/day for 7 kilns

DEQ AQ EF-09 at 200F

				Annual - Hemlock or Mixed			Daily Max		
CAS	**Pollutant**	**Douglas Fir Green Emission Factor (lb/MBF)**	**Hemlock Green Emission Factor (lb/MBF)**	**Annual Emission Factor (lb/MBF)**	**Requested Kiln Emissions (lb/yr)**	**Requested Kiln Emissions (TPY)**	**Acute Emission Factor (lb/MBF)**	**MAX DF Short-term Emissions (lb/day)**	**MAX Hem Short-term Emissions (lb/day)**
75-07-0	Acetaldehyde	0.0430	0.1128	0.1128	42300.0	21.2	0.1128	65.91	120.81
107-02-8	Acrolein	0.0008	0.0018	0.0018	675.0	0.3	0.0018	1.23	1.93
50-00-0	Formaldehyde	0.0025	0.0021	0.00216	809.4	0.4	0.0025	3.83	2.22
67-56-1	Methanol	0.0754	0.1097	0.1097	41145.0	20.6	0.1097	115.57	117.52
123-38-6	Propionaldehyde	0.0009	0.0012	0.0012	450.0	0.2	0.0009	1.38	1.29

Notes:
TAC emission factors are from DEQ HAP and VOC Emission Factors for Lumber Drying, 2021, AQ-EF09 assuming a maximum kiln temperature of 200°F

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 5 - Diesel Truck Shop Heaters

General Description of Calculation Methodology

- Diesel combustion emissions are based on Diesel combustion Emission factors from Oregon DEQ 2024 ATEI Combustion EF Tool.

Emission Unit	Activity Description	Heater 1 Max Daily Diesel Fuel (Mgal/day)	Heater 1 Requested Annual Diesel Usage (Mgal/yr)	Heater 2 Max Daily Diesel Fuel (Mgal/day)	Heater 2 Requested Annual Diesel Usage (Mgal/yr)
Diesel Truck Shop Heaters	Distillate Oil Combustion in Heaters	0.0864	4.00	0.0960	4.00

CAS #	TAC	Emission Factor (lb/kgal)	Max Daily (lb/day)	Annual Emissions (lb/yr)	Max Daily (lb/day)	Annual Emissions (lb/yr)
106-99-0	1,3-Butadiene	0.0148	1.28E-03	5.92E-02	1.42E-03	5.92E-02
75-07-0	Acetaldehyde	0.3506	3.03E-02	1.40E+00	3.37E-02	1.40E+00
107-02-8	Acrolein	0.3506	3.03E-02	1.40E+00	3.37E-02	1.40E+00
7664-41-7	Ammonia	0.8	6.91E-02	3.20E+00	7.68E-02	3.20E+00
7440-38-2	Arsenic and compounds	0.0016	1.38E-04	6.40E-03	1.54E-04	6.40E-03
71-43-2	Benzene	0.0044	3.80E-04	1.76E-02	4.22E-04	1.76E-02
50-32-8	Benzo[a]pyrene	0.000035	3.04E-06	1.41E-04	3.38E-06	1.41E-04
7440-43-9	Cadmium and compounds	0.0015	1.30E-04	6.00E-03	1.44E-04	6.00E-03
18540-29-9	Chromium VI, chromate and dichromate particulate	0.0001	8.64E-06	4.00E-04	9.60E-06	4.00E-04
7440-50-8	Copper and compounds	0.0041	3.54E-04	1.64E-02	3.94E-04	1.64E-02
100-41-4	Ethyl benzene	0.0002	1.73E-05	8.00E-04	1.92E-05	8.00E-04
50-00-0	Formaldehyde	0.3506	3.03E-02	1.40E+00	3.37E-02	1.40E+00
110-54-3	Hexane	0.0035	3.02E-04	1.40E-02	3.36E-04	1.40E-02
7647-01-0	Hydrochloric acid	0.1863	1.61E-02	7.45E-01	1.79E-02	7.45E-01
7439-92-1	Lead and compounds	0.0083	7.17E-04	3.32E-02	7.97E-04	3.32E-02
7439-96-5	Manganese and compounds	0.0031	2.68E-04	1.24E-02	2.98E-04	1.24E-02
7439-97-6	Mercury and compounds	0.002	1.73E-04	8.00E-03	1.92E-04	8.00E-03
91-20-3	Naphthalene	0.0053	4.58E-04	2.12E-02	5.09E-04	2.12E-02
365	Nickel compounds, insoluble	0.0039	3.37E-04	1.56E-02	3.74E-04	1.56E-02
401	Polycyclic aromatic hydrocarbons (PAHs)	0.0445	3.84E-03	1.78E-01	4.27E-03	1.78E-01
7782-49-2	Selenium and compounds	0.0022	1.90E-04	8.80E-03	2.11E-04	8.80E-03
108-88-3	Toluene	0.0044	3.80E-04	1.76E-02	4.22E-04	1.76E-02
1330-20-7	Xylene (mixture), including m-xylene, o-xylene, p-xylene	0.0016	1.38E-04	6.40E-03	1.54E-04	6.40E-03

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 6 - Ash Handling

General Description of Calculation Methodology

- Emissions factors are conservatively based on either AP-42 Table 11.19.2-2 for a transfer point or EPA's AP-42 Chapter 13.2.4, Equation 1, calculating particulate emissions for a drop operation, and then applying metals content based on analytical data.

Transers 1 & 3 Transfers into truck are similar to conveyor transfer point — Using AP-42 Table 11.19.2-2

PM (lb/ton)	0.003

Transfer 2 Transfer of ash from dump truck to stockpile — Using AP-42 Table 13.2.4, Eq 1

	Annual	Acute	
k (particle size multiplier)	0.35	0.35	
U (wind speed)	4.7	22.7	mph
M (moisture content)	4.8%	4.8%	maximum of applicable range, analytical data shows much higher %
E (lb/ton)	0.1914	1.4828	lb PM/ton

Quantity Handled	Annual	Day
Ash (tons)	1,250	3.50

		Transfers 1 & 3	**Transfer 2**		**Transfer 1**		**Transfer 2**		**Transfer 3**	
CAS	**TAC**	**EF (lb/ton)**	**Annual EF (lb/ton)**	**Acute EF (lb/ton)**	**Lb/yr**	**Lb/day**	**Lb/yr**	**Lb/day**	**Lb/yr**	**Lb/day**
7440-38-2	Arsenic and compounds	2.916E-09	1.860E-07	1.441E-06	3.64E-06	1.02E-08	2.33E-04	5.04E-06	3.64E-06	1.02E-08
7440-43-9	Cadmium and compounds	3.290E-10	2.099E-08	1.626E-07	4.11E-07	1.15E-09	2.62E-05	5.69E-07	4.11E-07	1.15E-09
7439-92-1	Lead and compounds	4.130E-08	2.635E-06	2.041E-05	5.16E-05	1.45E-07	3.29E-03	7.14E-05	5.16E-05	1.45E-07
365	Nickel and compounds	3.167E-08	2.021E-06	1.565E-05	3.96E-05	1.11E-07	2.53E-03	5.48E-05	3.96E-05	1.11E-07

Composition of Ash

CAS	Chemical	2012 Analysis (mg/kg)	2022 Analysis #1 (mg/kg)	2022 Analysis #2 (mg/kg)	Avg w/ NDs as 1/2DL (mg/kg)	
7440-38-2	Arsenic and compounds	1.95	0.945	0.986	1.0	Not Detected
7440-43-9	Cadmium and compounds	0.096	0.142	0.139	0.110	Not Detected
7439-92-1	Lead and compounds	10.1	11.7	19.5	13.77	
365	Nickel and compounds	11.5	9.27	10.9	10.56	

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 7 - Welding

General Description of Calculation Methodology

Welding occurs in various shops. "Chromium compounds" are not a TAC, so not reported. Emissions factors are from DEQ's AQ104B Welding Emission Factor Tool for FCAW E71T, GMAW E70S, and SMAW E7018.

FCAW E71T

MPY 450 | Max Daily 36

CAS or DEQ ID	TAC	EF (lbs/1000 lbs)	EF (lbs/1000 lbs)	Emissions (lb/yr)	Emissions (lb/day)
7440-47-3	Chromium (total)	0.002	0.002	0.00090	0.000072
7440-48-4	Cobalt and Compounds	0.001	0.001	0.000450	0.0000360
7439-96-5	Manganese and Compounds	0.662	0.662	0.2979	0.02383
365	Nickel compounds, insoluble	0.004	0.004	0.0018000	0.0001440

SMAW E7018

MPY 1000 | Max Daily 32

CAS or DEQ ID	TAC	EF (lbs/1000 lbs)	EF (lbs/1000 lbs)	Emissions (lb/yr)	Emissions (lb/day)
7440-48-4	Cobalt and Compounds	0.001	0.001	0.00100	0.0000320
7439-96-5	Manganese and Compounds	1.03	1.03	1.030	0.03296
365	Nickel compounds, insoluble	0.002	0.002	0.0020	0.000064

ER70S-6

MPY 760 | Max Daily 35

CAS or DEQ ID	TAC	EF (lbs/1000 lbs)	EF (lbs/1000 lbs)	Emissions (lb/yr)	Emissions (lb/day)
7440-48-4	Cobalt and Compounds	0.001	0.001	0.000760	0.0000350
7439-96-5	Manganese and Compounds	0.318	0.318	0.242	0.0111
365	Nickel compounds, insoluble	0.001	0.001	0.000760	0.0000350

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 8 - Plasma Cutting

General Description of Calculation Methodology

PM and metal emissions are based on "Emission of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel" by Bromsen B. et al. (1994). Only mild steel is cut and mild steel fume is 67-73% iron, 2-10% manganese, and ND-1.4% copper based on Bromsen. The upper end of the Bromsen ranges are used. The fume generation rate was selected to be 0.5% for semi-dry because the water reservoir is directly below the plate being cut, and 5% for dry, apllicable to handheld plasma and oxy-acetylene torch cutting. Annual emissions are an average of settings used for cutting various thickness plates. Daily maximum emissions use the cutting setting which produces the maximum.

Plasma Table Hours	1.25	hrs/day max	75 minutes
	225	hrs/yr max	
Plasma Handlheld Hours	1.25	hrs/day max	75 minutes
	225	hrs/yr max	

Unit Identification	Cutting Technique	Metal Type	Metal Thickness (Inches)	Kerf (Inches)	Metal Cutting Speed (IPM)	Density (g/cm^3)	Density Conversion (lb/in^3)	Fume Generated (% of Material Removed)	$PM/PM_{2.5}/PM_{10}$ Emission Factor (lb/inch)	Metal Feed Rate (IPH)	PM Emissions (lb/hr)	Daily Cutting Hours	MPY Cutting Hours	PM Emissions (lb/yr)	PM Emissions (lb/day)	Manganese and compounds (lb/yr)	Manganese and compounds (lb/day)	Copper and compounds (lb/yr)	Copper and compounds (lb/day)
Plasma table	Semidry	Mild steel	0.125	0.072	230	7.84	0.28	0.5	0.000013	13800	0.18		28.125	4.95		0.495		0.069	
Plasma table	Semidry	Mild steel	0.1875	0.08	175	7.84	0.28	0.5	0.000021	10500	0.22		28.125	6.27		0.627		0.088	
Plasma table	Semidry	Mild steel	0.25	0.083	153	7.84	0.28	0.5	0.000029	9180	**0.27**	1.250	28.125	7.59	0.34	0.759	0.0337	0.106	0.0047
Plasma table	Semidry	Mild steel	0.375	0.088	91	7.84	0.28	0.5	0.000047	5460	0.26		28.125	7.18		0.718		0.100	
Plasma table	Semidry	Mild steel	0.5	0.089	62	7.84	0.28	0.5	0.000063	3720	0.23		28.125	6.59		0.659		0.092	
Plasma table	Semidry	Mild steel	0.625	0.1	39	7.84	0.28	0.5	0.000089	2340	0.21		28.125	5.83		0.583		0.082	
Plasma table	Semidry	Mild steel	0.75	0.101	31	7.84	0.28	0.5	0.000107	1860	0.20		28.125	5.61		0.561		0.079	
Plasma table	Semidry	Mild steel	1	0.133	19	7.84	0.28	0.5	0.000188	1140	0.21		28.125	6.04		0.604		0.085	
											0.22					**5.01**	**0.03**	**0.70**	**0.005**
Plasma hand-held	Dry	Mild steel	0.125	0.072	230	7.84	0.28	5	0.000127	13800	1.76		28.125	49.47		4.947		0.693	
Plasma hand-held	Dry	Mild steel	0.1875	0.08	175	7.84	0.28	5	0.000212	10500	2.23		28.125	62.73		6.273		0.878	
Plasma hand-held	Dry	Mild steel	0.25	0.083	153	7.84	0.28	5	0.000294	9180	**2.70**	1.25	28.125	75.87	3.37	7.587	0.3372	1.062	0.0472
Plasma hand-held	Dry	Mild steel	0.375	0.088	91	7.84	0.28	5	0.000467	5460	2.55		28.125	71.77		7.177		1.005	
Plasma hand-held	Dry	Mild steel	0.5	0.089	62	7.84	0.28	5	0.000630	3720	2.34		28.125	65.93		6.593		0.923	
Plasma hand-held	Dry	Mild steel	0.625	0.1	39	7.84	0.28	5	0.000885	2340	2.07		28.125	58.25		5.825		0.816	
Plasma hand-held	Dry	Mild steel	0.75	0.101	31	7.84	0.28	5	0.001073	1860	2.00		28.125	56.12		5.612		0.786	
Plasma hand-held	Dry	Mild steel	1	0.133	19	7.84	0.28	5	0.001884	1140	2.15		28.125	60.39		6.039		0.845	
											2.22					**50.05**	**0.34**	**7.01**	**0.05**

Summary

CAS No.	Pollutant	Fume Percent	Annual	Daily
7439-96-5	Manganese and compounds	10.0%	55.06	0.37
7440-50-8	Copper and compounds	1.4%	7.71	0.05

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 9 - Torch Cutting

General Description of Calculation Methodology

- PM emissions are based on Versar, "Title V Applicability Workbook", for Institute of Scrap Recycling Industries, 1996., Table D-5.
- Metals fractions of PM are based on the steel plate material composition for Evraz Steel Plate, using the midpoint of the ranges provided. Hexavalent Chromium is estimated to be 5% of total chromium.

Oxy-Acetylene Torch Hours	3	hrs/day max		
Maintenance Shop	600	hrs/yr max		
	EF		Annual	Daily
PM Emissions	0.06	lb/hr cutting	36.00	0.18

TAC	CAS or DEQ ID	Wt Percent	Req. Annual (Lb/yr)	Max Daily (Lb/day)
Manganese and compounds	7439-96-5	1.0%	0.36	0.0018
Copper and compounds	7440-50-8	0.25%	0.090	0.00045
Nickel compounds, insoluble	365	0.10%	0.036	0.00018
Chromium VI, chromate and dichromate particulate	18540-29-9	0.0125%	0.005	0.00002

Table D-5. Torch Cutting Emission Factors[1][2]

	Total PM[3]	Criteria Air Pollutant Factors (lb pollutant/hour cutting time)						Hazardous Air Pollutant Factors
		PM_{10} (Incl. in total PM)	NO_x	VOC	CO	SO_2	Lead (included in total PM)	HAP
Uncontrolled	0.06[4]	0.06[4]	(5)	(5)	(5)	(5)	(5)	(5)

(1) Adapted from American Welding Society data on 1/2" plate. Factors for clean steel plate. Oily or greasy parts could result in emissions of other pollutants (e.g., VOC).
(2) Note: Most states classify torch cutting as a fugitive source. In this case, torch cutting emissions would not be included in determining major source

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 10 - Ink Marking

General Description of Calculation Methodology
- Inside the Planer Mill, ink markings are applied to finished boards. Also, methyl ethyl ketone is used for cleaning lenses within the mill used in the board monitoring system. These chemicals are assumed to be emitted on a material balance basis.

Material Name	MPY Usage (gal/yr)	Max Daily (gal/day)	Density (lb/gal)	Req. Annual Usage (lb/yr)	Max daily (lb/day)	CAS #	TAC	Percent Compostion (%)	Req. Annual (lb/yr)	Max Daily (lb/day)
IC-234BK	40	0.40	7.09	284	2.8	78-93-3	2-Butanone (methyl ethyl ketone)	75%	212.7	2.1
	40	0.40	7.09	284	2.8	67-63-0	Isopropyl alcohol	3%	8.4	0.1
IR-234BK	25	0.25	7.51	188	1.9	78-93-3	2-Butanone (methyl ethyl ketone)	77%	145.3	1.5
	25	0.25	7.51	188	1.9	67-63-0	Isopropyl alcohol	3%	5.6	0.1
MC-234BK	100	1.00	6.67	667	6.7	78-93-3	2-Butanone (methyl ethyl ketone)	95%	633.8	6.3
	100	1.00	6.67	667	6.7	67-63-0	Isopropyl alcohol	3%	20.0	0.2
WL-200 Wash	50	0.50	6.67	334	3.3	78-93-3	2-Butanone (methyl ethyl ketone)	100%	333.6	3.3

Summary

78-93-3	2-Butanone (methyl ethyl ketone)	1325.4	13.3
67-63-0	Isopropyl alcohol	34.0	0.3

Hampton Lumber Mills - Tillamook
TAC Emission Calculations
Table 11 - Miscellaneous Chemical Usage

Chemical/Product	Can Size (oz)	MPY Usage (Cans Used)	Max Daily (Cans Used)	MPY Usage (lbs/yr)	Max Daily (lbs/day)	CAS #	TAC	Percent Compostion (%)	Annual Emissions (lb/yr)	Daily Emissions (lbs/day)	Reporting Threshold from TEU Guidance (lb/yr)
Tacoma Screw Gloss White MRO Paint	16oz	36	4	36	4	67-64-1	Acetone	20%	7.2	0.8	1000
				36	4	2807-30-9	Ethylene glycol monopropyl ether	7.5%	2.7	0.3	N/A, no RBC
				36	4	108-10-1	Methyl isobutyl ketone (MIBK, hexone)	3%	1.08	0.12	1000
Tacoma Screw Gloss Black MRO Paint	16oz	306	34	306	34	67-64-1	Acetone	20%	61.2	6.8	1000
				306	34	2807-30-9	Ethylene glycol monopropyl ether	7.5%	22.95	2.55	N/A, no RBC
				306	34	108-10-1	Methyl isobutyl ketone (MIBK, hexone)	3%	9.18	1.02	1000
Tacoma Screw Light Grey Primer MRO Paint	17oz	360	40	382.5	42.5	67-64-1	Acetone	20%	76.5	8.5	1000
				382.5	42.5	108-65-6	Propylene glycol monomethyl ether acetate	3%	11.475	1.275	N/A, no RBC
				382.5	42.5	67-56-1	Methanol	0.19%	0.72675	0.08075	1000
Tacoma Screw Red Iron Oxide Primer MRO Paint	17oz	144	16	153	17	67-64-1	Acetone	20%	30.6	3.4	1000
				153	17	108-65-6	Propylene glycol monomethyl ether acetate	3%	4.59	0.51	N/A, no RBC
				153	17	67-56-1	Methanol	0.19%	0.2907	0.0323	1000
				153	17	67-63-0	Isopropyl alcohol	3%	4.59	0.51	1000
Tacoma Screw Flat Black MRO Paint	16oz	360	40	360	40	67-64-1	Acetone	20%	72	8	1000
				360	40	108-10-1	Methyl isobutyl ketone (MIBK, hexone)	3%	10.8	1.2	1000
				360	40	108-65-6	Propylene glycol monomethyl ether acetate	3%	10.8	1.2	N/A, no RBC
Tacoma Screw Safety Blue MRO Paint	16oz	324	36	324	36	67-64-1	Acetone	20%	64.8	7.2	1000
				324	36	2807-30-9	Ethylene glycol monopropyl ether	7.5%	24.3	2.7	N/A, no RBC
				324	36	108-10-1	Methyl isobutyl ketone (MIBK, hexone)	3%	9.72	1.08	1000
Tacoma Screw Safety Yellow MRO Paint	16oz	162	18	162	18	67-64-1	Acetone	20%	32.4	3.6	1000
				162	18	2807-30-9	Ethylene glycol monopropyl ether	7.5%	12.15	1.35	N/A, no RBC
				162	18	108-65-6	Propylene glycol monomethyl ether acetate	3%	4.86	0.54	N/A, no RBC
Tacoma Screw Safety Red MRO Paint	16oz	54	6	54	6	67-64-1	Acetone	20%	10.8	1.2	1000
				54	6	2807-30-9	Ethylene glycol monopropyl ether	7.5%	4.05	0.45	N/A, no RBC
				54	6	108-65-6	Propylene glycol monomethyl ether acetate	3%	1.62	0.18	N/A, no RBC
Tacoma Screw Semi Gloss Black MRO Paint	16oz	192	21	192	21	67-64-1	Acetone	20%	38.4	4.2	1000
				192	21	2807-30-9	Ethylene glycol monopropyl ether	7.5%	14.4	1.575	N/A, no RBC
				192	21	108-65-6	Propylene glycol monomethyl ether acetate	3%	5.76	0.63	N/A, no RBC
Seymore New Farm Implement Yellow Engine Enamel	12oz	18	2	13.5	1.5	67-64-1	Acetone	20%	2.7	0.3	1000
				13.5	1.5	2807-30-9	Ethylene glycol monopropyl ether	7.5%	1.0125	0.1125	N/A, no RBC
				13.5	1.5	108-65-6	Propylene glycol monomethyl ether acetate	3%	0.405	0.045	N/A, no RBC
Seymore New Farm Implement Green Engine Enamel	12oz	306	34	229.5	25.5	67-64-1	Acetone	20%	45.9	5.1	1000
				229.5	25.5	2807-30-9	Ethylene glycol monopropyl ether	7.5%	17.2125	1.9125	N/A, no RBC
				229.5	25.5	108-65-6	Propylene glycol monomethyl ether acetate	3%	6.885	0.765	N/A, no RBC
Rust-Oleum Safety Blue Enamel	15oz	36	4	33.75	3.75	67-64-1	Acetone	37.5%	12.65625	1.40625	1000
				33.75	3.75	1330-20-7	Xylene (mixture), including m-xylene, o-xyle	6.25%	2.109375	0.234375	1000
				33.75	3.75	100-41-4	Ethyl benzene	0.55%	0.185625	0.020625	10
Seymore Allis Chalmers Orange Enamel	12oz	126	14	94.5	10.5	67-64-1	Acetone	20%	18.9	2.1	1000
				94.5	10.5	2807-30-9	Ethylene glycol monopropyl ether	7.5%	7.0875	0.7875	N/A, no RBC
				94.5	10.5	108-65-6	Propylene glycol monomethyl ether acetate	3%	2.835	0.315	N/A, no RBC
CRC Brakleen Brake Parts Cleaner	20oz	600	30	750	37.5	67-64-1	Acetone	45%	337.5	16.875	1000
				750	37.5	67-56-1	Methanol	20.0%	150	7.5	N/A, no RBC
				750	37.5	108-88-3	Toluene	8%	56.25	2.8125	N/A, no RBC

	Summary	Annual (lb/yr)	Daily (lb/day)	Compared to?
67-64-1	Acetone	811.6	69.5	1000
2807-30-9	Ethylene glycol monopropyl ether	105.9	11.7	N/A, no RBC
108-10-1	Methyl isobutyl ketone (MIBK, hexone)	30.8	3.4	1000
108-65-6	Propylene glycol monomethyl ether acetate	49.2	5.5	N/A, no RBC
67-56-1	Methanol	151.0	7.6	1000
67-63-0	Isopropyl alcohol	4.6	0.5	1000
1330-20-7	Xylene (mixture), including m-xylene, o-xylene, p-xylene	2.1	0.2	1000
100-41-4	Ethyl benzene	0.2	0.0	10
108-88-3	Toluene	56.3	2.8	1000

Appendix B – Safety Data Sheets

- Ink Marking SDSs
  - Domino IC-234BK Printing Ink
  - Domino IR-234BK Printing Ink
  - Domino MC-234BK Make Up
  - Domino WL-200 Wash

- Miscellaneous Usage SDSs That Emit TACs
  - Tacoma Screw Gloss White MRO Paint
  - Tacoma Screw Gloss Black MRO Paint
  - Tacoma Screw Light Grey Primer MRO Paint
  - Tacoma Screw Red Iron Oxide Primer MRO Paint
  - Tacoma Screw Flat Black MRO Paint
  - Tacoma Screw Safety Blue MRO Paint
  - Tacoma Screw Safety Yellow MRO Paint
  - Tacoma Screw Safety Red MRO Paint
  - Tacoma Screw Semi-Gloss Black MRO Paint
  - Seymore New Farm Implement Yellow Engine Enamel
  - Seymore New Farm Implement Green Engine Enamel
  - Rust-Oleum Safety Blue Enamel
  - Seymore Allis Chalmers Orange Enamel
  - CRC Brakleen Brake Parts Cleaner

- Miscellaneous Usage SDSs That Do Not Emit TACs
  - Kroil Penetrant
  - Liquid Wrench Penetrating Oil
  - CRC Food Grade Belt Dressing
  - CRC SP-400
  - CRC Power Lube
  - Relton Rapid Tap
  - Kop-Coat End Shield
  - Kop-Coat Anitfoam Agent 30
  - Kop-Coat Workhorse II
  - NALCO Tri-Act 1805
  - NALCO NexGuard 22310
  - NALCO CONQUOR CNQR3475

SAFETY DATA SHEET
IC-234BK PRINTING INK

According to Regulation (EC) No 1907/2006, Annex II, as amended.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	IC-234BK PRINTING INK
Product number	IC-234BK

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Printing ink.

1.3. Details of the supplier of the safety data sheet

Supplier	Domino UK Ltd Bar Hill Cambridge CB23 8TU Tel: +44 (0) 1954 782551 Fax: +44 (0) 1954 782874 Email: sds@domino-uk.com

1.4. Emergency telephone number

Emergency telephone	For emergencies call +44 (0)207 858 0111 (24 Hours)

SECTION 2: Hazards identification

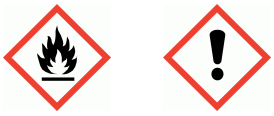
2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	Eye Irrit. 2 - H319 STOT SE 3 - H336
Environmental hazards	Not Classified

2.2. Label elements

Hazard pictograms



Signal word	Danger
Hazard statements	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.

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Contains	2-Butanone, Isopropyl Alcohol
Supplementary precautionary statements	P240 Ground and bond container and receiving equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P312 Call a POISON CENTRE/doctor if you feel unwell. P337+P313 If eye irritation persists: Get medical advice/ attention. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

butanone			70-80%
CAS number: 78-93-3	EC number: 201-159-0	REACH registration number: 01-2119457290-43-XXXX	
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336			
Isopropyl Alcohol			0.9-5.0%
CAS number: 67-63-0	EC number: 200-661-7	REACH registration number: 01-2119457558-25-XXXX	
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336			
1,2-Propanediol			0.9-5.0%
CAS number: 57-55-6	EC number: 200-338-0	REACH registration number: 01-2119456809-23-XXXX	
Classification Not Classified			

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

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Ingestion	IF SWALLOWED: Get medical attention. Rinse mouth thoroughly with water. Do not induce vomiting unless under the direction of medical personnel. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Skin contact	IF ON SKIN: Rinse immediately with plenty of water.
Eye contact	IF IN EYES: Rinse immediately with plenty of water. Get medical attention if irritation persists after washing.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

4.2. Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Headache. Nausea, vomiting.
Ingestion	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Irritating to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Flammable liquid and vapour. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive mixtures with air. Containers can burst violently or explode when heated, due to excessive pressure build-up. Take precautionary measures against static discharges.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO_2).

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

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Environmental precautions	Contain spillage with sand, earth or other suitable non-combustible material. Use appropriate containment to avoid environmental contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Collect and dispose of spillage as indicated in Section 13.

6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Flammable/combustible materials. Do not handle until all safety precautions have been read and understood. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use only non-sparking tools.
Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Eliminate all sources of ignition. Keep away from oxidising materials, heat and flames. Keep only in the original container. Keep containers upright. Take precautionary measures against static discharges.
Storage class	Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

butanone

Long-term exposure limit (8-hour TWA): WEL 200 ppm 600 mg/m³
Short-term exposure limit (15-minute): WEL 300 ppm 899 mg/m³
Sk, BMGV

Isopropyl Alcohol

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³
Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

1,2-Propanediol

Long-term exposure limit (8-hour TWA): WEL 150 ppm 474 mg/m³ total vapour and particulates
Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ particulate

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through the skin.
BMGV = Biological monitoring guidance value.

butanone (CAS: 78-93-3)

DNEL	Workers - Inhalation; Long term systemic effects: 600 mg/m³ Workers - Dermal; Long term systemic effects: 1161 mg/kg

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PNEC	- Fresh water; 55.8 mg/l - marine water; 55.8 mg/l - Sediment (Freshwater); 284.7 mg/kg - Sediment (Marinewater); 284.7 mg/kg - Soil; 22.5 mg/kg

Isopropyl Alcohol (CAS: 67-63-0)

DNEL	Workers - Inhalation; Long term systemic effects: 500 mg/m³ Workers - Dermal; Long term systemic effects: 888 mg/kg/day
PNEC	- Fresh water; 140.9 mg/l - marine water; 140.9 mg/l - STP; 2251 mg/l - Sediment (Freshwater); 552 mg/kg - Sediment (Marinewater); 552 mg/kg - Soil; 28 mg/kg

1,2-Propanediol (CAS: 57-55-6)

DNEL	REACH dossier information. Workers - Inhalation; Long term systemic effects: 168 mg/m³ Workers - Inhalation; Long term local effects: 10 mg/m³
PNEC	REACH dossier information. - Fresh water; 260 mg/l - marine water; 26 mg/l - STP; 20000 mg/l - Sediment (Freshwater); 572 mg/kg - Sediment (Marinewater); 57.2 mg/kg - Soil; 50 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls	As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Ensure control measures are regularly inspected and maintained. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits.
Eye/face protection	Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. Frequent changes are recommended. It is recommended that gloves are made of the following material: Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH). The selected gloves should have a breakthrough time of at least 8 hours. Polyvinyl alcohol (PVA). The selected gloves should have a breakthrough time of at least 0.75 hours. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. It should be noted that liquid may penetrate the gloves.
Other skin and body protection	Wear anti-static protective clothing if there is a risk of ignition from static electricity. Wear appropriate clothing to prevent skin contamination.
Hygiene measures	Provide eyewash station and safety shower. Wash contaminated clothing before reuse. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

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Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.
Environmental exposure controls	Keep container tightly sealed when not in use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Black.
Odour	Ketonic.
Odour threshold	Not available.
pH	Not applicable.
Melting point	-86°C Information given is applicable to the major ingredient.
Initial boiling point and range	~79.6°C @ 1013 hPa Information given is applicable to the major ingredient.
Flash point	-3°C Closed cup.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1.8 % Upper flammable/explosive limit: 11.5 % Information given is applicable to the major ingredient.
Vapour pressure	105 hPa @ 20°C 126 hPa @ 25°C Information given is applicable to the major ingredient.
Vapour density	> 1
Relative density	0.850 @ 25°C
Solubility(ies)	270 g/l water @ 20°C Information given is applicable to the major ingredient. Soluble in the following materials: Organic solvents.
Partition coefficient	log Pow: 0.3 Information given is applicable to the major ingredient.
Auto-ignition temperature	404°C Information given is applicable to the major ingredient.
Decomposition Temperature	Not available.
Viscosity	4.25-5.00 cP @ 25°C
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Volatile organic compound	This product contains a maximum VOC content of 80.5 %. This product contains a maximum VOC content of 0.65 kg/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	See Section 10.3 (Possibility of hazardous reactions) for further information.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	The following materials may react strongly with the product: Oxidising agents.

10.4. Conditions to avoid

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Conditions to avoid	Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.

10.5. Incompatible materials

Materials to avoid	Oxidising materials.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	STOT SE 3 - H336 May cause drowsiness or dizziness.
Target organs	Central nervous system

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard	Based on available data the classification criteria are not met.

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General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect.
Ingestion	No specific symptoms known.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	Irritating to eyes.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target organs	Central nervous system

Toxicological information on ingredients.

butanone

Acute toxicity - oral	
Notes (oral LD_{50})	LD_{50} >2000 mg/kg, Oral, Rat
Acute toxicity - dermal	
Notes (dermal LD_{50})	LD_{50} >2000 mg/kg, Dermal, Rabbit

Isopropyl Alcohol

Acute toxicity - oral	
Notes (oral LD_{50})	Supplier's information. LD_{50} >2000 mg/kg, Oral, Rat
Acute toxicity - dermal	
Notes (dermal LD_{50})	Supplier's information. LD_{50} >2000 mg/kg, Dermal, Rabbit
Acute toxicity - inhalation	
Notes (inhalation LC_{50})	REACH dossier information. LC_{50} > 10000 ppm, Inhalation, Rat
Carcinogenicity	
IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

SECTION 12: Ecological information

Ecotoxicity	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity	Based on available data the classification criteria are not met.

Ecological information on ingredients.

butanone

Acute aquatic toxicity	
Acute toxicity - fish	REACH dossier information. LC_{50}, 96 hours: 2993 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	REACH dossier information. EC_{50}, 48 hours: 308 mg/l, Daphnia magna
Acute toxicity - aquatic plants	REACH dossier information. EC_{50}, 72 hours: 1972 mg/l, Selenastrum capricornutum

Isopropyl Alcohol

Acute aquatic toxicity

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Acute toxicity - fish	Supplier's information. LC_{50}, 48 hours: > 100 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	Supplier's information. EC_{50}, 48 hours: > 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	Supplier's information. EC_{50}, 72 hours: > 100 mg/l, Scenedesmus subspicatus

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient log Pow: 0.3 Information given is applicable to the major ingredient.

Ecological information on ingredients.

butanone

Partition coefficient log Pow: 0.3

Isopropyl Alcohol

Partition coefficient log Pow: 0.05

12.4. Mobility in soil

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out.

Disposal methods Dispose of waste product or used containers in accordance with local regulations Only store in correctly labelled containers.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1210

UN No. (IMDG) 1210

UN No. (ICAO) 1210

UN No. (ADN) 1210

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PRINTING INK

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Proper shipping name (IMDG)	PRINTING INK
Proper shipping name (ICAO)	PRINTING INK
Proper shipping name (ADN)	PRINTING INK

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels

14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.

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EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. EC_{50}: 50% of maximal Effective Concentration. GHS: Globally Harmonized System. IARC: International Agency for Research on Cancer. IATA: International Air Transport Association. Kow: Octanol-water partition coefficient. LC_{50}: Lethal Concentration to 50 % of a test population. LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose). LOAEL: Lowest Observed Adverse Effect Level. NOAEL: No Observed Adverse Effect Level. PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. SVHC: Substances of Very High Concern. vPvB: Very Persistent and Very Bioaccumulative.
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/ Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	03/12/2018
Revision	2
Supersedes date	01/10/2018
SDS number	1331
Hazard statements in full	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

SAFETY DATA SHEET
IR-234BK PRINTING INK

According to Regulation (EU) No 453/2010

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	IR-234BK PRINTING INK
Product No.	IR-234BK

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Printing ink.

1.3. Details of the supplier of the safety data sheet

Supplier	Domino UK Ltd Bar Hill Cambridge CB23 8TU Tel: +44 (0) 1954 782551 Fax: +44 (0) 1954 782874 Email: msds@domino-uk.com

1.4. Emergency telephone number

+44(0)1954 782551 (24 Hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

	Physical and Chemical Hazards	Flam. Liq. 2 - H225
	Human health	EUH066;Eye Irrit. 2 - H319;STOT SE 3 - H336
	Environment	Not classified.
Classification (1999/45/EEC)	Xi;R36. F;R11. R66, R67.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

See section 11 for additional information on health hazards.

Environment

The product contains a substance which may cause long term adverse effects in the aquatic environment.

Physical and Chemical Hazards

Vapours are heavier than air and may travel along the floor and in the bottom of containers.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

Signal Word	Danger	
Hazard Statements		
	H225	Highly flammable liquid and vapour.
	H319	Causes serious eye irritation.
	H336	May cause drowsiness or dizziness.
Precautionary Statements		
	P210	Keep away from open flames and hot surfaces. No smoking.

	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear protective clothing and gloves.
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P313	Get medical advice/attention.
	P501	Dispose of contents/container in accordance with local regulations.
Supplementary Precautionary Statements		
	P233	Keep container tightly closed.
	P240	Ground/bond container and receiving equipment.
	P241	Use explosion-proof electrical equipment.
	P242	Use only non-sparking tools.
	P243	Take precautionary measures against static discharge.
	P261	Avoid breathing vapour/spray.
	P264	Wash contaminated skin thoroughly after handling.
	P280	Wear protective clothing, gloves, eye and face protection.
	P370+378	In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
	P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P312	Call a POISON CENTER or doctor/physician if you feel unwell.
	P337	If eye irritation persists:
	P403+233	Store in a well-ventilated place. Keep container tightly closed.
	P403+235	Store in a well-ventilated place. Keep cool.
	P405	Store locked up.
	P501	Dispose of contents/container in accordance with national regulations.
Supplemental label information		
	EUH066	Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

BUTANONE		70-84.9%
CAS-No.: 78-93-3	EC No.: 201-159-0	Registration Number: 01-2119457290-43-XXXX

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 2 - H225	F;R11
EUH066	Xi;R36
Eye Irrit. 2 - H319	R66
STOT SE 3 - H336	R67

PROPAN-2-OL		1-5%
CAS-No.: 67-63-0	EC No.: 200-661-7	

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 2 - H225	F;R11
Eye Irrit. 2 - H319	Xi;R36
STOT SE 3 - H336	R67

PROPYLENE GLYCOL	1-5%
CAS-No.: 57-55-6 EC No.:	
Classification (EC 1272/2008) Not classified.	Classification (67/548/EEC) Not classified.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

The product contains organic solvents.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

NOTE! Keep affected person away from heat, sparks and flames!

Inhalation

Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.

Ingestion

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! DO NOT INDUCE VOMITING! Get medical attention immediately!

Skin contact

Remove affected person from source of contamination. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

Eye contact

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Immediately transport to hospital or eye specialist.

4.2. Most important symptoms and effects, both acute and delayed

General information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion

May cause nausea, headache, dizziness and intoxication.

Skin contact

Prolonged contact may cause redness, irritation and dry skin.

Eye contact

May cause severe irritation to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Water spray.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

Take precautionary measures against static discharges.

Specific hazards

Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2).

5.3. Advice for firefighters

Special Fire Fighting Procedures

Keep run-off water out of sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities. Use water to keep fire exposed containers cool and disperse vapours. Move container from fire area if it can be done without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Clean-up personnel should use respiratory and/or liquid contact protection. Runoff or release to sewer, waterway or ground is forbidden. Small Spillages: Collect with absorbent, non-combustible material into suitable containers. Large Spillages: Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Inform Authorities if large amounts are involved.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for more detailed information on health effects and symptoms. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Risk of vapour concentration on the floor and in low-lying areas. Static electricity and formation of sparks must be prevented.

7.2. Conditions for safe storage, including any incompatibilities

Flammable/combustible - Keep away from oxidisers, heat and flames. Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

Storage Class

Flammable liquid storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
BUTANONE	WEL	200 ppm	600 mg/m3	300 ppm	899 mg/m3	Sk
PROPAN-2-OL	WEL	400 ppm	999 mg/m3	500 ppm	1250 mg/m3	
PROPYLENE GLYCOL	WEL	150 ppm	10 mg/m3			

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through skin.

PROPAN-2-OL (CAS: 67-63-0)

Ingredient Comments
WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment

Process conditions

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures

Well-ventilated area.

Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

Hand protection

Protective gloves must be used if there is a risk of direct contact or splash. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Eye protection

Wear splash-proof eye goggles to prevent any possibility of eye contact.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Promptly remove any clothing that becomes wet or contaminated. Wash promptly if skin becomes wet or contaminated. Use appropriate hand lotion to prevent defatting and cracking of skin. When using do not eat, drink or smoke. Wash hands at the end of each work shift and before eating, smoking and using the toilet.

Environmental Exposure Controls

Keep container tightly sealed when not in use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Black.
Odour	Ketonic.
Solubility	Slightly soluble in water. Soluble in: Organic solvents.
Initial boiling point and boiling range (°C)	~75-85°C @ 760 mm Hg
Relative density	0.90 @ 20°C
Vapour density (air=1)	>1
pH-Value, Conc. Solution	7.0
Viscosity	4.2 cP @ 20°C
Flash point (°C)	-3°C CC (Closed cup).
Flammability Limit - Lower(%)	0.80

9.2. Other information

Not determined.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Not available.

10.4. Conditions to avoid

Avoid contact with strong oxidisers.

10.5. Incompatible materials

Materials To Avoid

Strong oxidising substances.

10.6. Hazardous decomposition products

Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information

No information available.

Acute toxicity:

Acute Toxicity (Oral LD50)

Not determined.

Acute Toxicity (Dermal LD50)

Not determined.

Acute Toxicity (Inhalation LC50)

Not determined.

Germ cell mutagenicity:

Genotoxicity - In Vitro

Not determined.

Carcinogenicity:

Carcinogenicity

Not determined.

Reproductive Toxicity:

Reproductive Toxicity - Fertility

Not determined.

Reproductive Toxicity - Development

Not determined.

Specific target organ toxicity - single exposure:

STOT - Single exposure

No information available.

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure

No information available.

Aspiration hazard:

Not anticipated to present an aspiration hazard based on chemical structure.

Inhalation

Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion

May cause nausea, headache, dizziness and intoxication.

Skin contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

Eye contact

Irritating to eyes.

Route of entry

Ingestion. Skin absorption. Inhalation.

Medical Symptoms

NERVOUS SYSTEM. Drowsiness, dizziness, disorientation, vertigo. Mild intoxication (incl. fatigue, lassitude, irritability, headache, nausea).

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

No data on possible environmental effects have been found.

12.1. Toxicity

Acute Fish Toxicity

Avoid discharge to the aquatic environment.

12.2. Persistence and degradability

Degradability

There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

12.4. Mobility in soil

Mobility:

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	1210
UN No. (IMDG)	1210
UN No. (ICAO)	1210

14.2. UN proper shipping name

Proper Shipping Name	PRINTING INK

14.3. Transport hazard class(es)

ADR/RID/ADN Class	3
ADR/RID/ADN Class	Class 3: Flammable liquids.
ADR Label No.	3
IMDG Class	3
ICAO Class/Division	3

Transport Labels

14.4. Packing group

ADR/RID/ADN Packing group	II
IMDG Packing group	II
ICAO Packing group	II

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

EMS	F-E, S-D
Emergency Action Code	•3YE
Hazard No. (ADR)	33
Tunnel Restriction Code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Approved Code Of Practice

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Information Sources

Croner´s: Substances Hazardous to Health. Croner´s: Emergency First Aid Guide.

Revision Date	01/06/2011

Risk Phrases In Full

R11	Highly flammable
R36	Irritating to eyes.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

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Hazard Statements In Full

H319	Causes serious eye irritation.
H225	Highly flammable liquid and vapour.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET
MC-234BK MAKE UP

According to Regulation (EU) No 453/2010

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	MC-234BK MAKE UP
Product No.	MC-234BK

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Printing Ink related material

1.3. Details of the supplier of the safety data sheet

Supplier

Domino UK Ltd
Bar Hill
Cambridge
CB23 8TU
Tel: +44 (0) 1954 782551
Fax: +44 (0) 1954 782874
Email: msds@domino-uk.com

1.4. Emergency telephone number

+44 (0)207 858 0111 (24 Hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

	Physical and Chemical Hazards	Flam. Liq. 2 - H225
	Human health	EUH066;Eye Irrit. 2 - H319;STOT SE 3 - H336
	Environment	Not classified.
Classification (1999/45/EEC)	Xi;R36. F;R11. R66, R67.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

See section 11 for additional information on health hazards.

Environment

The product contains a substance which may cause long term adverse effects in the aquatic environment.

Physical and Chemical Hazards

Vapours are heavier than air and may travel along the floor and in the bottom of containers.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

Signal Word	Danger	
Hazard Statements		
	H225	Highly flammable liquid and vapour.
	H319	Causes serious eye irritation.
	H336	May cause drowsiness or dizziness.
Precautionary Statements		
	P210	Keep away from open flames and hot surfaces. No smoking.

	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear protective clothing and gloves.
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P313	Get medical advice/attention.
	P501	Dispose of contents/container in accordance with local regulations.
Supplementary Precautionary Statements		
	P233	Keep container tightly closed.
	P240	Ground/bond container and receiving equipment.
	P242	Use only non-sparking tools.
	P243	Take precautionary measures against static discharge.
	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P264	Wash contaminated skin thoroughly after handling.
	P370+378	In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
	P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P312	Call a POISON CENTER or doctor/physician if you feel unwell.
	P337	If eye irritation persists:
	P403+233	Store in a well-ventilated place. Keep container tightly closed.
	P403+235	Store in a well-ventilated place. Keep cool.
	P405	Store locked up.
Supplemental label information		
	EUH066	Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

BUTANONE 90-100%

CAS-No.: 78-93-3 EC No.: 201-159-0 Registration Number: 01-2119457290-43-XXXX

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 2 - H225	F;R11
EUH066	Xi;R36
Eye Irrit. 2 - H319	R66
STOT SE 3 - H336	R67

PROPAN-2-OL 1-5%

CAS-No.: 67-63-0 EC No.: 200-661-7

Classification (EC 1272/2008)	Classification (67/548/EEC)
Flam. Liq. 2 - H225	F;R11
Eye Irrit. 2 - H319	Xi;R36
STOT SE 3 - H336	R67

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

The product contains organic solvents.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

MC-234BK MAKE UP

General information

NOTE! Keep affected person away from heat, sparks and flames!

Inhalation

Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.

Ingestion

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! DO NOT INDUCE VOMITING! Get medical attention immediately!

Skin contact

Remove affected person from source of contamination. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

Eye contact

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Immediately transport to hospital or eye specialist.

4.2. Most important symptoms and effects, both acute and delayed

General information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion

May cause nausea, headache, dizziness and intoxication.

Skin contact

Prolonged contact may cause redness, irritation and dry skin.

Eye contact

May cause severe irritation to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Water spray.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

Take precautionary measures against static discharges.

Specific hazards

Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO_2).

5.3. Advice for firefighters

Special Fire Fighting Procedures

Keep run-off water out of sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities. Use water to keep fire exposed containers cool and disperse vapours. Move container from fire area if it can be done without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Clean-up personnel should use respiratory and/or liquid contact protection. Runoff or release to sewer, waterway or ground is forbidden. Small Spillages: Collect with absorbent, non-combustible material into suitable containers. Large Spillages: Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Inform Authorities if large amounts are involved.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for more detailed information on health effects and symptoms. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Risk of vapour concentration on the floor and in low-lying areas. Static electricity and formation of sparks must be prevented.

7.2. Conditions for safe storage, including any incompatibilities

Flammable/combustible - Keep away from oxidisers, heat and flames. Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

Storage Class

Flammable liquid storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
BUTANONE	WEL	200 ppm	600 mg/m3	300 ppm	899 mg/m3	Sk
PROPAN-2-OL	WEL	400 ppm	999 mg/m3	500 ppm	1250 mg/m3	

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through skin.

PROPAN-2-OL (CAS: 67-63-0)

Ingredient Comments
WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment


Process conditions

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures

Well-ventilated area.

Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

Hand protection

Protective gloves must be used if there is a risk of direct contact or splash. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Eye protection

Wear splash-proof eye goggles to prevent any possibility of eye contact.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Promptly remove any clothing that becomes wet or contaminated. Wash promptly if skin becomes wet or contaminated. Use appropriate hand lotion to prevent defatting and cracking of skin. When using do not eat, drink or smoke. Wash hands at the end of each work shift and before eating, smoking and using the toilet.

Environmental Exposure Controls

Keep container tightly sealed when not in use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Lightly coloured. Black.
Odour	Ketonic.
Solubility	Slightly soluble in water. Soluble in: Organic solvents.
Initial boiling point and boiling range (°C)	~75-85°C @ 760 mm Hg
Relative density	0.80 @ 20°C
Vapour density (air=1)	>1
Viscosity	1.0 cP 20°C
Flash point (°C)	-4°C CC (Closed cup).

9.2. Other information

Not determined.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Not available.

10.4. Conditions to avoid

Avoid contact with strong oxidisers.

10.5. Incompatible materials

Materials To Avoid

Strong oxidising substances.

10.6. Hazardous decomposition products

Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information

No information available.

Acute toxicity:

Acute Toxicity (Oral LD50)

Not determined.

Acute Toxicity (Dermal LD50)

Not determined.

Acute Toxicity (Inhalation LC50)

Not determined.

Germ cell mutagenicity:

Genotoxicity - In Vitro

Not determined.

Carcinogenicity:

Carcinogenicity
Not determined.

Reproductive Toxicity:
Reproductive Toxicity - Fertility
Not determined.

Specific target organ toxicity - single exposure:
STOT - Single exposure
No information available.

Specific target organ toxicity - repeated exposure:
STOT - Repeated exposure
No information available.

Aspiration hazard:

Not anticipated to present an aspiration hazard based on chemical structure.

Inhalation
Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion
May cause nausea, headache, dizziness and intoxication.

Skin contact
Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

Eye contact
Irritating to eyes.

Route of entry
Ingestion. Skin absorption. Inhalation.
Medical Symptoms
NERVOUS SYSTEM. Drowsiness, dizziness, disorientation, vertigo. Mild intoxication (incl. fatigue, lassitude, irritability, headache, nausea).

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
No data on possible environmental effects have been found.

12.1. Toxicity

Acute Fish Toxicity
Avoid discharge to the aquatic environment.

12.2. Persistence and degradability

Degradability
There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil

Mobility:
The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	1210
UN No. (IMDG)	1210
UN No. (ICAO)	1210

14.2. UN proper shipping name

Proper Shipping Name	PRINTING INK RELATED MATERIAL

14.3. Transport hazard class(es)

ADR/RID/ADN Class	3
ADR/RID/ADN Class	Class 3: Flammable liquids.
ADR Label No.	3
IMDG Class	3
ICAO Class/Division	3

Transport Labels

14.4. Packing group

ADR/RID/ADN Packing group	II
IMDG Packing group	II
ICAO Packing group	II

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

EMS	F-E, S-D
Emergency Action Code	•3YE
Hazard No. (ADR)	33
Tunnel Restriction Code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

MC-234BK MAKE UP

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Approved Code Of Practice

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Information Sources

Croner´s: Substances Hazardous to Health. Croner´s: Emergency First Aid Guide.

Revision Date	01/06/2011

Risk Phrases In Full

R11	Highly flammable
R36	Irritating to eyes.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Hazard Statements In Full

H319	Causes serious eye irritation.
H225	Highly flammable liquid and vapour.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET
WL-200 WASH

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	WL-200 WASH
Product number	WL-200
Synonyms; trade names	ethyl methyl ketone
REACH registration number	01-2119457290-43-XXXX
CAS number	78-93-3
EU index number	606-002-00-3
EC number	201-159-0

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Printing Ink related material

1.3. Details of the supplier of the safety data sheet

Supplier	Domino UK Ltd Bar Hill Cambridge CB23 8TU Tel: +44 (0) 1954 782551 Fax: +44 (0) 1954 782874 Email: msds@domino-uk.com

1.4. Emergency telephone number

Emergency telephone	For emergencies call +44 (0)207 858 0111 (24 Hours)
National emergency telephone number	999 / 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	Eye Irrit. 2 - H319 STOT SE 3 - H336
Environmental hazards	Not Classified

Classification (67/548/EEC or 1999/45/EC)	F;R11 Xi;R36 R66 R67

2.2. Label elements

EC number	201-159-0

WL-200 WASH

Pictogram

Signal word	Danger
Hazard statements	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash contaminated skin thoroughly after handling. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container in accordance with local regulations.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Supplementary precautionary statements	P233 Keep container tightly closed. P240 Ground/ bond container and receiving equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective clothing and gloves. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/ doctor if you feel unwell. P313 Get medical advice/ attention. P337 If eye irritation persists: P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	WL-200 WASH
REACH registration number	01-2119457290-43-XXXX
EU index number	606-002-00-3
CAS number	78-93-3
EC number	201-159-0
Composition comments	This product is a single substance. It is 100% Butanone (Methyl Ethyl Ketone), which is prepared and packaged specifically for use with Domino products.

SECTION 4: First aid measures

WL-200 WASH

4.1. Description of first aid measures

General information Keep affected person away from heat, sparks and flames.

Inhalation Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.

Ingestion Never give anything by mouth to an unconscious person. Do not induce vomiting. Do not induce vomiting. Get medical attention immediately.

Skin contact Remove affected person from source of contamination. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Continue to rinse for at least 15 minutes. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion May cause nausea, headache, dizziness and intoxication.

Skin contact Prolonged contact may cause redness, irritation and dry skin.

Eye contact May cause severe eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Water spray.

5.2. Special hazards arising from the substance or mixture

Specific hazards Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2). Take precautionary measures against static discharges.

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities. Use water to keep fire exposed containers cool and disperse vapours. Move containers from fire area if it can be done without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.

WL-200 WASH

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Keep away from heat, sparks and open flame. Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 200 ppm 600 mg/m³
Short-term exposure limit (15-minute): WEL 300 ppm 899 mg/m³
Sk

Exposure limits

WEL = Workplace Exposure Limit
Sk = Can be absorbed through the skin.

DNEL
Workers - Dermal; Long term systemic effects: 1161 mg/kg/day
Workers - Inhalation; Long term systemic effects: 600 mg/m³
Consumer - Dermal; Long term systemic effects: 412 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 106 mg/m³
Consumer - Oral; Long term systemic effects: 31 mg/kg/day

PNEC
- Marine water; 55.8 mg/l
- Fresh water; 55.8 mg/l
- Intermittent release; 55.8 mg/l
- STP; 709 mg/l
- Sediment; 284.7 mg/kg/day
- Soil; 22.5 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls All handling should only take place in well-ventilated areas.

Eye/face protection Wear chemical splash goggles.

WL-200 WASH

Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station. Do not smoke in work area. Wash promptly if skin becomes contaminated. When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes wet or contaminated. Use appropriate hand lotion to prevent defatting and cracking of skin.
Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Ketonic.
Odour threshold	0.00032 ppm
pH	pH (concentrated solution): ~ 7
Melting point	-87°C
Initial boiling point and range	~75-85°C @°C @ 760 mm Hg
Flash point	-6°C CC (Closed cup).
Evaporation rate	4 - 7.7 (butyl acetate = 1) 3.3 (diethyl ether = 1)
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1.0 g/100 g Upper flammable/explosive limit: 11.5 g/100 g
Vapour pressure	10400 hPa @ 20°C 12600 hPa @ 25°C
Vapour density	2.5
Relative density	1.2
Bulk density	0.8 kg/l
Solubility(ies)	Partially miscible with water
Partition coefficient	log Kow: 0.3
Auto-ignition temperature	404°C
Decomposition Temperature	No specific test data are available.
Viscosity	0.42 mPa s @ 20°C
Oxidising properties	Not known.

9.2. Other information

Molecular weight	72.11

SECTION 10: Stability and reactivity

10.1. Reactivity

WL-200 WASH

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not available.

10.4. Conditions to avoid

Conditions to avoid Avoid contact with strong oxidising agents.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 2,193.0

Species Rat

Notes (oral LD_{50}) REACH dossier information.

ATE oral (mg/kg) 2,193.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 8,000.0

Species Rat

ATE dermal (mg/kg) 8,000.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l) 34.5

Species Rat

ATE inhalation (vapours mg/l) 34.5

Respiratory sensitisation

Respiratory sensitisation Not available.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEC 5041 ppm, Inhalation, Rat

Inhalation Vapours may cause headache, fatigue, dizziness and nausea.

WL-200 WASH

Ingestion	May cause nausea, headache, dizziness and intoxication.
Skin contact	Product has a defatting effect on skin. May cause allergic contact eczema.
Eye contact	Irritating to eyes.
Route of entry	Ingestion. Skin absorption Inhalation

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity	Avoid discharge to the aquatic environment.
Acute toxicity - fish	LC_{50}, 48 hours: >100 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 7 days: >100 mg/l, Desmodesmus subspicatus
Acute toxicity - microorganisms	EC_{0}, 16 hour: 1150 mg/l,

12.2. Persistence and degradability

Biodegradation	The substance is readily biodegradable. - Degradation 89%: 20 days

12.3. Bioaccumulative potential

Bioaccumulative potential	Bioaccumulation is unlikely. log Pow: ≤ 4,
Partition coefficient	log Kow: 0.3

12.4. Mobility in soil

Mobility	Not available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects	Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1193
UN No. (IMDG)	1193
UN No. (ICAO)	1193

WL-200 WASH

UN No. (ADN) 1193

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Proper shipping name (IMDG) ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Proper shipping name (ICAO) ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Proper shipping name (ADN) ETHYL METHYL KETONE (METHYL ETHYL KETONE)

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID classification code F1

ADR/RID label 3

IMDG class 3

ICAO class/division 3

ADN class 3

Transport labels

14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ADN packing group II

ICAO packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS F-E, S-D

ADR transport category 2

Emergency Action Code •2YE

Hazard Identification Number (ADR/RID) 33

Tunnel restriction code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

WL-200 WASH

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Guidance Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.
Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS
EINECS

Canada - DSL/NDSL
DSL

US - TSCA
Present.

US - TSCA 12(b) Export Notification
N/A

Australia - AICS
Yes

Japan - MITI
Yes

Korea - KECI
Yes

China - IECSC
Yes

Philippines – PICCS
Yes

SECTION 16: Other information

Revision date 12/05/2017

Revision 1

Supersedes date 13/04/2016

SDS number 21452

Risk phrases in full R11 Highly flammable.
R36 Irritating to eyes.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

Hazard statements in full H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

WL-200 WASH

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663101 TSP GLOSS WHITE**

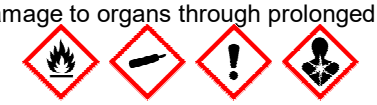
Product code: TS00663101
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
13463-67-7	titanium dioxide	10-15%
110-19-0	Isobutyl Acetate	5-10%
106-97-8	n-butane	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
7727-43-7	barium sulfate	5-10%
123-86-4	butyl acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%
108-10-1	methyl isobutyl ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Trade name: 663101 TSP GLOSS WHITE

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.
Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm
108-10-1 methyl isobutyl ketone	
PEL (USA)	Long-term value: 410 mg/m³, 100 ppm

(Contd. on page 3)

Safety Data Sheet

Trade name: 663101 TSP GLOSS WHITE

(Contd. of page 2)

REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

108-10-1 methyl isobutyl ketone

BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

13463-67-7 titanium dioxide

Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)

(Contd. on page 4)

Safety Data Sheet

Trade name: 663101 TSP GLOSS WHITE

(Contd. of page 3)

110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-10-1 methyl isobutyl ketone		
Oral	LD50	2,100 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
UN1950
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
7727-43-7	barium sulfate
108-10-1	methyl isobutyl ketone

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:	
108-10-1	methyl isobutyl ketone

(Contd. on page 5)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663101 TSP GLOSS WHITE

(Contd. of page 4)

EPA:		
67-64-1	Acetone	I
110-19-0	Isobutyl Acetate	D
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
108-10-1	methyl isobutyl ketone	I

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663102 TSP GLOSS BLACK**

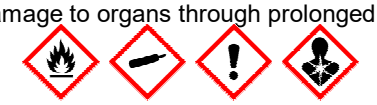
Product code: TS00663102
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
106-97-8	n-butane	5-10%
7727-43-7	barium sulfate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
108-10-1	methyl isobutyl ketone	≥5-<10%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
110-19-0	Isobutyl Acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.
Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Trade name: 663102 TSP GLOSS BLACK

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
108-10-1 methyl isobutyl ketone	
PEL (USA)	Long-term value: 410 mg/m³, 100 ppm
REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm

(Contd. on page 3)

Safety Data Sheet

(Contd. of page 2)

TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm

107-87-9 Methyl Propyl Ketone

PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

108-10-1 methyl isobutyl ketone

BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative	LC50/4 h	658 mg/l (rat)

(Contd. on page 4)

Safety Data Sheet

Trade name: 663102 TSP GLOSS BLACK

(Contd. of page 3)

108-10-1 methyl isobutyl ketone		
Oral	LD50	2,100 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
7727-43-7	barium sulfate
108-10-1	methyl isobutyl ketone

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
108-10-1	methyl isobutyl ketone
1333-86-4	Carbon black
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:	
108-10-1	methyl isobutyl ketone

(Contd. on page 5)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663102 TSP GLOSS BLACK

(Contd. of page 4)

EPA:		
67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
108-10-1	methyl isobutyl ketone	I
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663103 TSP LIGHT GRAY PRIMER**

Product code: TS00663103
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier:

Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178 USA
phone: 815-895-9101
www.seymourpaint.com

Seymour of Sycamore
3041 Dougall Avenue, Suite 503
Windsor, ONT N9E 1S3 CANADA
phone: 800-435-4482
www.seymourpaint.com

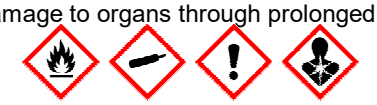
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	10-15%
110-19-0	Isobutyl Acetate	10-15%
106-97-8	n-butane	5-10%
13463-67-7	titanium dioxide	5-10%
64742-89-8	VM&P Naphtha	5-10%
14807-96-6	Talc	1-5%
64-17-5	ethyl alcohol	1-5%
64742-47-8	Mineral Spirits	1-5%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
67-63-0	Isopropyl Alcohol	1-5%
67-56-1	methanol	0.19%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.

(Contd. on page 2)

Safety Data Sheet

Trade name: 663103 TSP LIGHT GRAY PRIMER

(Contd. of page 1)

Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
64-17-5 ethyl alcohol	
PEL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m³, 1000 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
67-63-0 Isopropyl Alcohol	
PEL (USA)	Long-term value: 980 mg/m³, 400 ppm
REL (USA)	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
TLV (USA)	Short-term value: 984 mg/m³, 400 ppm Long-term value: 492 mg/m³, 200 ppm BEI

(Contd. on page 3)

Safety Data Sheet

Trade name: 663103 TSP LIGHT GRAY PRIMER

(Contd. of page 2)

67-56-1 methanol	
PEL (USA)	Long-term value: 260 mg/m³, 200 ppm
REL (USA)	Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm Skin
TLV (USA)	Short-term value: 328 mg/m³, 250 ppm Long-term value: 262 mg/m³, 200 ppm Skin; BEI

Ingredients with biological limit values:	
67-64-1 Acetone	
BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)
67-63-0 Isopropyl Alcohol	
BEI (USA)	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
67-56-1 methanol	
BEI (USA)	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.

(Contd. on page 4)

Safety Data Sheet

Trade name: 663103 TSP LIGHT GRAY PRIMER

(Contd. of page 3)

Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
13463-67-7 titanium dioxide		
Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)
64-17-5 ethyl alcohol		
Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
67-63-0 Isopropyl Alcohol		
Oral	LD50	4,570 mg/kg (rat)
Dermal	LD50	13,400 mg/kg (rab)
Inhalative	LC50/4 h	30 mg/l (rat)
67-56-1 methanol		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rbt)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN 1950 AEROSOLS, 2.1

(Contd. on page 5)

Safety Data Sheet

Trade name: 663103 TSP LIGHT GRAY PRIMER

(Contd. of page 4)

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
67-63-0	Isopropyl Alcohol

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.

Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.

Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene
1333-86-4	Carbon black

Prop 65 chemicals known to cause birth defects or reproductive harm:	
67-56-1	methanol
108-10-1	methyl isobutyl ketone

EPA:		
67-64-1	Acetone	I
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663104 TSP RED OXIDE PRIMER**

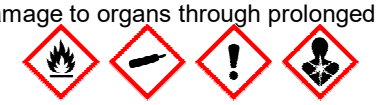
Product code: TS00663104
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

67-64-1	Acetone	15-25%
74-98-6	propane	10-15%
110-19-0	Isobutyl Acetate	10-15%
106-97-8	n-butane	5-10%
64742-89-8	VM&P Naphtha	5-10%
64-17-5	ethyl alcohol	1-5%
14807-96-6	Talc	1-5%
1309-37-1	red iron oxide pigment	1-5%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
64742-47-8	Mineral Spirits	1-5%
67-63-0	Isopropyl Alcohol	1-5%
67-56-1	methanol	0.19%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.

(Contd. on page 2)

Safety Data Sheet

Trade name: 663104 TSP RED OXIDE PRIMER

(Contd. of page 1)

Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
64-17-5 ethyl alcohol	
PEL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m³, 1000 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
67-63-0 Isopropyl Alcohol	
PEL (USA)	Long-term value: 980 mg/m³, 400 ppm
REL (USA)	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
TLV (USA)	Short-term value: 984 mg/m³, 400 ppm Long-term value: 492 mg/m³, 200 ppm BEI

(Contd. on page 3)

Safety Data Sheet

Trade name: 663104 TSP RED OXIDE PRIMER

(Contd. of page 2)

67-56-1 methanol	
PEL (USA)	Long-term value: 260 mg/m³, 200 ppm
REL (USA)	Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm Skin
TLV (USA)	Short-term value: 328 mg/m³, 250 ppm Long-term value: 262 mg/m³, 200 ppm Skin; BEI

Ingredients with biological limit values:

67-64-1 Acetone	
BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

67-63-0 Isopropyl Alcohol	
BEI (USA)	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)

67-56-1 methanol	
BEI (USA)	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.

(Contd. on page 4)

Safety Data Sheet

(Contd. of page 3)

Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
64-17-5 ethyl alcohol		
Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/l (rat)
1309-37-1 red iron oxide pigment		
Oral	LD50	>5,000 mg/kg (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
67-63-0 Isopropyl Alcohol		
Oral	LD50	4,570 mg/kg (rat)
Dermal	LD50	13,400 mg/kg (rab)
Inhalative	LC50/4 h	30 mg/l (rat)
67-56-1 methanol		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rbt)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

(Contd. on page 5)

Safety Data Sheet

Trade name: 663104 TSP RED OXIDE PRIMER

(Contd. of page 4)

SARA Section 313 (Specific toxic chemical listings):	
67-63-0	Isopropyl Alcohol

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.

Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.

Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
13463-67-7	titanium dioxide
1333-86-4	Carbon black
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:	
67-56-1	methanol
108-10-1	methyl isobutyl ketone

EPA:		
67-64-1	Acetone	I
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663106 TSP FLAT BLACK**

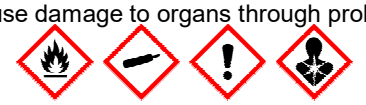
Product code: TS00663106
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause respiratory irritation. May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
1317-65-3	Calcium Carbonate	10-15%
106-97-8	n-butane	5-10%
110-19-0	Isobutyl Acetate	5-10%
64742-89-8	VM&P Naphtha	1-5%
108-65-6	PM acetate	1-5%
2807-30-9	Glycol Ether EP	1-5%
108-10-1	methyl isobutyl ketone	1-5%
107-87-9	Methyl Propyl Ketone	1-5%
112926-00-8	Silicon Dioxide	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

(Contd. on page 2)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663106 TSP FLAT BLACK

(Contd. of page 1)

Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
108-10-1 methyl isobutyl ketone	
PEL (USA)	Long-term value: 410 mg/m³, 100 ppm
REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm
112926-00-8 Silicon Dioxide	
PEL (USA)	20mppcf or 80mg/m3 /%SiO2
REL (USA)	Long-term value: 6 mg/m³ See Pocket Guide App. C
TLV (USA)	TLV withdrawn

(Contd. on page 3)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663106 TSP FLAT BLACK

(Contd. of page 2)

Ingredients with biological limit values:	
67-64-1 Acetone	
BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)
108-10-1 methyl isobutyl ketone	
BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:		
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

(Contd. on page 4)

Safety Data Sheet

Trade name: 663106 TSP FLAT BLACK

(Contd. of page 3)

108-10-1 methyl isobutyl ketone		
Oral	LD50	2,100 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN 1950 AEROSOLS, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
108-10-1	methyl isobutyl ketone

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
108-10-1	methyl isobutyl ketone
1333-86-4	Carbon black
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:	
108-10-1	methyl isobutyl ketone

EPA:		
67-64-1	Acetone	I
110-19-0	Isobutyl Acetate	D
108-10-1	methyl isobutyl ketone	I

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663107 SAFETY BLUE**

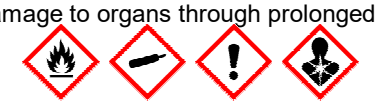
Product code: TS00663107
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
106-97-8	n-butane	5-10%
7727-43-7	barium sulfate	5-10%
110-19-0	Isobutyl Acetate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
13463-67-7	titanium dioxide	1-5%
123-86-4	butyl acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%
108-10-1	methyl isobutyl ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Trade name: 663107 SAFETY BLUE

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm
108-10-1 methyl isobutyl ketone	
PEL (USA)	Long-term value: 410 mg/m³, 100 ppm

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Safety Data Sheet

(Contd. of page 2)

REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI

Ingredients with biological limit values:	
67-64-1 Acetone	
BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)
108-10-1 methyl isobutyl ketone	
BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:		
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)

(Contd. on page 4)

Safety Data Sheet

Trade name: 663107 SAFETY BLUE

(Contd. of page 3)

13463-67-7 titanium dioxide		
Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-10-1 methyl isobutyl ketone		
Oral	LD50	2,100 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
7727-43-7	barium sulfate
108-10-1	methyl isobutyl ketone

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:	
108-10-1	methyl isobutyl ketone

(Contd. on page 5)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663107 SAFETY BLUE

(Contd. of page 4)

EPA:		
67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
110-19-0	Isobutyl Acetate	D
108-10-1	methyl isobutyl ketone	I

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663108 SAFETY YELLOW**

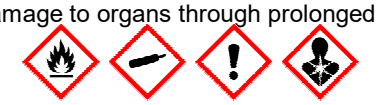
Product code: TS00663108
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
106-97-8	n-butane	5-10%
7727-43-7	barium sulfate	5-10%
110-19-0	Isobutyl Acetate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
13463-67-7	titanium dioxide	1-5%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663108 SAFETY YELLOW

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm

(Contd. on page 3)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663108 SAFETY YELLOW

(Contd. of page 2)

Ingredients with biological limit values:	
67-64-1 Acetone	
BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:		
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
13463-67-7 titanium dioxide		
Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)

(Contd. on page 4)

Safety Data Sheet

Trade name: 663108 SAFETY YELLOW

(Contd. of page 3)

108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7	barium sulfate

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:

108-10-1	methyl isobutyl ketone

EPA:

67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

1 Identification of the substance and manufacturer

Trade name: **663114 SAFETY RED**

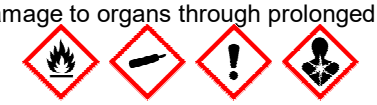
Product code: TS00663114
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
106-97-8	n-butane	5-10%
7727-43-7	barium sulfate	5-10%
110-19-0	Isobutyl Acetate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
108-65-6	PM acetate	1-5%
123-86-4	butyl acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663114 SAFETY RED

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.
Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs&BEIs book; D, EX
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm

(Contd. on page 3)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663114 SAFETY RED

(Contd. of page 2)

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-111.2 °F)

Flash point: -19 °C (-66.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.

(Contd. on page 4)

Safety Data Sheet

Printing date 01/24/2020 Revised On 01/24/2020

Trade name: 663114 SAFETY RED

(Contd. of page 3)

Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7	barium sulfate

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

108-10-1	methyl isobutyl ketone
13463-67-7	titanium dioxide
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:

108-10-1	methyl isobutyl ketone

EPA:

67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 12/06/2023 Revised On 09/14/2023

1 Identification of the substance and manufacturer

Trade name: **SEMI-GLOSS GLOSS BLACK**

Product code: TS06630126
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier: Distributed By:
Tacoma Screw Products, Inc.
2001 Center Street
Tacoma, WA 98409
800-562-8192
Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flammable Aerosols 1	H222 Extremely flammable aerosol.
Gases under Pressure - Liquefied gas	H280 Contains gas under pressure; may explode if heated.
Eye Irritation 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Single Exposure 3	H336 May cause drowsiness or dizziness.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to organs through prolonged or repeated exposure.

Additional information:
GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store in a well-ventilated place.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
106-97-8	n-butane	5-10%
7727-43-7	barium sulfate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
108-10-1	methyl isobutyl ketone	≥5-<10%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
110-19-0	Isobutyl Acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.
Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Printing date 12/06/2023 Revised On 09/14/2023

Trade name: SEMI-GLOSS GLOSS BLACK

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.
Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 500 ppm Long-term value: 250 ppm A4, BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	see Appendix F Minimal oxygen content (D, EX)
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
108-10-1 methyl isobutyl ketone	
PEL (USA)	Long-term value: 410 mg/m³, 100 ppm
REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 75 ppm Long-term value: 20 ppm BEI, A3
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm

(Contd. on page 3)

Safety Data Sheet

Trade name: SEMI-GLOSS GLOSS BLACK

(Contd. of page 2)

TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm

Ingredients with biological limit values:	
67-64-1 Acetone	
BEI (USA)	25 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)
108-10-1 methyl isobutyl ketone	
BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a NIOSH approved respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44.5 °C (-48.1 °F)

Flash point: -19 °C (-2.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

(Contd. on page 4)

Safety Data Sheet

Printing date 12/06/2023 Revised On 09/14/2023

Trade name: SEMI-GLOSS GLOSS BLACK

(Contd. of page 3)

11 Toxicological information

LD/LC50 values that are relevant for classification:		
108-10-1 methyl isobutyl ketone		
Oral	LD50	2,100 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	11 mg/l (ATE)
		8.3-16.6 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number UN1950
DOT UN1950
DOT Aerosols, flammable, containing substances in Class 8, Packing Group III
ADR 1950 AEROSOLS
Transport hazard class(es):
Class 2.1 Gases
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN 1950 AEROSOLS, 2.1 (8)

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
7727-43-7	barium sulfate
108-10-1	methyl isobutyl ketone

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
108-10-1	methyl isobutyl ketone
1333-86-4	Carbon black

(Contd. on page 5)

Safety Data Sheet

Printing date 12/06/2023 Revised On 09/14/2023

Trade name: SEMI-GLOSS GLOSS BLACK

(Contd. of page 4)

100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:	
108-10-1	methyl isobutyl ketone

EPA:		
67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
108-10-1	methyl isobutyl ketone	I
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/17/2024 Revised On 01/17/2024

1 Identification of the substance and manufacturer

Trade name: **NEW FARM AND IMPLEMENT YELLOW**

Product code: 0000160266
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier:

Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178 USA
phone: 815-895-9101
www.seymourpaint.com

Seymour of Sycamore
3041 Dougall Avenue, Suite 503
Windsor, ONT N9E 1S3 CANADA
phone: 800-435-4482
www.seymourpaint.com

Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flammable Aerosols 1	H222 Extremely flammable aerosol.
Gases under Pressure - Liquefied gas	H280 Contains gas under pressure; may explode if heated.
Eye Irritation 2A	H319 Causes serious eye irritation.
Carcinogenicity 2	H351 Suspected of causing cancer. Route of exposure: Inhalation.
Specific Target Organ Toxicity - Single Exposure 3	H336 May cause drowsiness or dizziness.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to organs through prolonged or repeated exposure.

Additional information:
GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Suspected of causing cancer. Route of exposure: Inhalation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store in a well-ventilated place.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
106-97-8	n-butane	5-10%
7727-43-7	barium sulfate	5-10%
110-19-0	Isobutyl Acetate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
13463-67-7	titanium dioxide	1-5%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

Safety Data Sheet

Trade name: NEW FARM AND IMPLEMENT YELLOW

(Contd. of page 1)

After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO_2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards: Can form explosive gas-air mixtures.

Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.

Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.
Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 500 ppm Long-term value: 250 ppm A4, BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	see Appendix F Minimal oxygen content (D, EX)
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 1000 ppm (EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm

(Contd. on page 3)

Safety Data Sheet

Trade name: NEW FARM AND IMPLEMENT YELLOW

(Contd. of page 2)

REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	25 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a NIOSH approved respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47.2 °F)

Flash point: -19 °C (-2.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
13463-67-7 titanium dioxide		
Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)

(Contd. on page 4)

Safety Data Sheet

Trade name: NEW FARM AND IMPLEMENT YELLOW

(Contd. of page 3)

108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number UN1950
DOT UN1950
DOT Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1 Gases
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7	barium sulfate

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:

108-10-1	methyl isobutyl ketone

EPA:

67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

Printing date 01/17/2024 Revised On 01/17/2024

1 Identification of the substance and manufacturer

Trade name: **NEW FARM AND IMPLEMENT GREEN**

Product code: 0000160268
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier:

Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178 USA
phone: 815-895-9101
www.seymourpaint.com

Seymour of Sycamore
3041 Dougall Avenue, Suite 503
Windsor, ONT N9E 1S3 CANADA
phone: 800-435-4482
www.seymourpaint.com

Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flammable Aerosols 1	H222 Extremely flammable aerosol.
Gases under Pressure - Liquefied gas	H280 Contains gas under pressure; may explode if heated.
Eye Irritation 2A	H319 Causes serious eye irritation.
Carcinogenicity 2	H351 Suspected of causing cancer. Route of exposure: Inhalation.
Specific Target Organ Toxicity - Single Exposure 3	H336 May cause drowsiness or dizziness.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to organs through prolonged or repeated exposure.

Additional information:
GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Suspected of causing cancer. Route of exposure: Inhalation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store in a well-ventilated place.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
7727-43-7	barium sulfate	5-10%
106-97-8	n-butane	5-10%
110-19-0	Isobutyl Acetate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.

(Contd. on page 2)

Safety Data Sheet

Trade name: NEW FARM AND IMPLEMENT GREEN

(Contd. of page 1)

Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO_2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards: Can form explosive gas-air mixtures.

Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.

Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.
Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 500 ppm Long-term value: 250 ppm A4, BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	see Appendix F Minimal oxygen content (D, EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 1000 ppm (EX)
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm

(Contd. on page 3)

Safety Data Sheet

Printing date 01/17/2024 Revised On 01/17/2024

Trade name: NEW FARM AND IMPLEMENT GREEN

(Contd. of page 2)

REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	25 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a NIOSH approved respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47.2 °F)

Flash point: -19 °C (-2.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.

(Contd. on page 4)

Safety Data Sheet

Printing date 01/17/2024 Revised On 01/17/2024

Trade name: NEW FARM AND IMPLEMENT GREEN

(Contd. of page 3)

Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number UN1950
DOT UN1950
DOT Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1 Gases
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7	barium sulfate

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
100-41-4	ethyl benzene
1333-86-4	Carbon black

Prop 65 chemicals known to cause birth defects or reproductive harm:

108-10-1	methyl isobutyl ketone

EPA:

67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: PRO +LSPR 6PK SAFETY BLUE

Revision Date: 10/18/2023

Product Identifier: 7524838

Supercedes Date: 2/4/2021

Recommended Use: Topcoat/Aerosols

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazards Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
26% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2A	H319	Causes serious eye irritation.
STOT, Single Exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Reproductive Toxicity, category 1B	H360	May damage fertility or the unborn child.
Gases under Pressure; Compressed Gas	H280	Contains gas under pressure; may explode if heated.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

P280	Wear protective gloves / protective clothing / eye protection / face protection.
P321	Specific treatment (see notice on this label).
P405	Store locked up.
P501	Dispose of contents and container in accordance with local, regional and national regulations.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P362+P364	Take off contaminated clothing and wash it before reuse.
P317	Get medical help.
P333+P317	If skin irritation or rash occurs: Get medical help.
P337+P317	If eye irritation persists: Get medical help.

3. Composition / Information on Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Acetone	67-64-1	25-50	GHS02-GHS07	H225-319-332-336
n-Butyl Acetate	123-86-4	10-25	GHS02-GHS07	H226-336
Propane	74-98-6	10-25	GHS04	H280
n-Butane	106-97-8	2.5-10	GHS04	H280
Xylenes (o-, m-, p- Isomers)	1330-20-7	2.5-10	GHS02-GHS07	H226-315-319-332
Titanium Dioxide	13463-67-7	1.0-2.5	Not Available	Not Available
Ethyl 3-Ethoxypropionate	763-69-9	1.0-2.5	GHS06	H331
Titanium Dioxide	1317-80-2	1.0-2.5	Not Available	Not Available
Solvent Naphtha, Light Aromatic	64742-95-6	1.0-2.5	GHS07-GHS08	H304-332
Ethylbenzene	100-41-4	0.1-1.0	GHS02-GHS07-GHS08	H225-304-332-351-373
Zirconium 2-Ethylhexanoate	22464-99-9	0.1-1.0	GHS07-GHS08	H315+H320-360
Methyl Ethyl Ketoxime	96-29-7	0.1-1.0	GHS05-GHS06-GHS07-GHS08	H302+H312-315-317-318-331-336-370-373
Zirconium Acetate	5153-24-2	<0.1	Not Available	Not Available

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed. Remove contact lenses, if present and easy to do. Continue rinsing.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing and decontaminate footwear before reuse.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. If victim is conscious and alert, give 2 to 4 cupfuls of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Treat symptomatically and supportively.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Aqueous Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. FLASH POINT IS LESS THAN -7°C (20°F). EXTREMELY FLAMMABLE LIQUID AND VAPOR!

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent buildup of steam. Full protective equipment including self-contained breathing apparatus should be used. If water is used, fog nozzles are preferred. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): Not a combustible dust.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations. Do not incinerate closed containers

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid prolonged or repeated contact with skin. Do not get in eyes, on skin or clothing. Do not puncture or incinerate (burn) container, even after use.

STORAGE: Contents under pressure. Do not store above 120°F (49°C). Store large quantities in buildings designed and protected for storage of flammable aerosols. Keep away from heat, sparks, flame and sources of ignition.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Acetone	67-64-1	30.0	250 ppm	500 ppm	1000 ppm	N.E.
n-Butyl Acetate	123-86-4	20.0	50 ppm	150 ppm	150 ppm	N.E.
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
Xylenes (o-, m-, p- Isomers)	1330-20-7	5.0	20 ppm	N.E.	100 ppm	N.E.
Titanium Dioxide	13463-67-7	5.0	0.2 mg/m3	N.E.	15 mg/m3	N.E.
Ethyl 3-Ethoxypropionate	763-69-9	5.0	N.E.	N.E.	N.E.	N.E.
Titanium Dioxide	1317-80-2	5.0	N.E.	N.E.	N.E.	N.E.
Solvent Naphtha, Light Aromatic	64742-95-6	5.0	N.E.	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	N.E.	100 ppm	N.E.
Zirconium 2-Ethylhexanoate	22464-99-9	1.0	5 mg/m3	10 mg/m3	5 mg/m3	N.E.
Methyl Ethyl Ketoxime	96-29-7	1.0	10 ppm	N.E.	N.E.	N.E.
Zirconium Acetate	5153-24-2	0.1	5 mg/m3	10 mg/m3	5 mg/m3	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Specific Gravity:	0.783	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	N.D.
Decomposition Temp., °C:	N.D.		
Boiling Range, °C:	-37 - 1,649	**Explosive Limits, vol%:**	1.0 - 13.0
Flammability:	Supports Combustion	**Flash Point, °C:**	-96
Evaporation Rate:	Faster than Ether	**Auto-Ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

Conditions to Avoid: Avoid temperatures above 120°F (49°C). Avoid all possible sources of ignition. Avoid excess heat. Keep from freezing.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Can cause severe eye irritation. Causes eye and skin irritation which may lead to dermatitis with repeated exposures. Irritating, and may injure eye tissue if not removed promptly.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Prolonged or repeated skin contact may cause irritation. Causes skin irritation. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Low hazard for usual industrial handling or commercial handling by trained personnel.

EFFECTS OF OVEREXPOSURE - INHALATION: High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist.

EFFECTS OF OVEREXPOSURE - INGESTION: Substance may be harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)Prolonged or repeated skin contact may cause dermatitis. May cause genetic defects. May damage fertility or the unborn child.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
67-64-1	Acetone	5800 mg/kg Rat	>15700 mg/kg Rabbit	50.1 mg/L Rat

123-86-4	n-Butyl Acetate	10768 mg/kg Rat	>17600 mg/kg Rabbit	> 21 mg/L Rat
106-97-8	n-Butane	N.E.	N.E.	658 mg/L Rat
1330-20-7	Xylenes (o-, m-, p- Isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	6000	N.E.
763-69-9	Ethyl 3-Ethoxypropionate	5000 mg/kg Rat	>9500 mg/kg Rabbit	>5.96 mg/L Rat
64742-95-6	Solvent Naphtha, Light Aromatic	8400 mg/kg Rat	>2000 mg/kg Rabbit	N.E.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
96-29-7	Methyl Ethyl Ketoxime	930 mg/kg Rat	1100 mg/kg Rabbit	>4.83 mg/L Rat

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: No ecotoxicity data was found for this product.

13. Disposal Information

DISPOSAL: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not incinerate closed containers. This product as supplied is a US EPA defined ignitable hazardous waste. Dispose of unusable product as a hazardous waste (D001) in accordance with local, state, and federal regulation.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint and Related Spray Products in Ltd Qty	Aerosols	Aerosols, flammable	Aerosols
Hazard Class:	N.A.	2	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Gas under pressure, Carcinogenicity, Reproductive toxicity, Respiratory or Skin Sensitization, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

SARA Section 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylenes (o-, m-, p- Isomers)	1330-20-7
Ethylbenzene	100-41-4
Pigment Blue 15	147-14-8
Copper phthalocyaninesulfonic acid, dioctadecyldimethylammonium salt	70750-63-9

Toxic Substances Control Act

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations:

California Proposition 65

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

16. Other Information

HMIS RATINGS

Health:	3*	**Flammability:**	4	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	3	**Flammability:**	4	**Instability:**	0

Volatile Organic Compounds: 548 g/L

SDS REVISION DATE: 10/18/2023

REASON FOR REVISION:

Product Composition Changed
Substance Hazard Threshold % Changed
Substance and/or Product Properties Changed in Section(s):
02 - Hazard Identification
03 - Composition / Information on Ingredients
05 - Fire-Fighting Measures
08 - Exposure Controls / Personal Protection
11 - Toxicological Information
15 - Regulatory Information
16 - Other Information
Substance Hazardous Flag Changed
Substance Regulatory CAS Number Changed
Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.D. - Not Determined, N.E. - Not Established

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet

Printing date 01/17/2024 Revised On 01/17/2024

1 Identification of the substance and manufacturer

Trade name: **ALLIS CHALMERS ORANGE**

Product code: 0000160210
Recommended use: Paint and coatings application.
Uses advised against: Any that differs from the recommended use.
Manufacturer/Supplier:

Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178 USA
phone: 815-895-9101
www.seymourpaint.com

Seymour of Sycamore
3041 Dougall Avenue, Suite 503
Windsor, ONT N9E 1S3 CANADA
phone: 800-435-4482
www.seymourpaint.com

Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

Classification of the substance or mixture

Flammable Aerosols 1	H222 Extremely flammable aerosol.
Gases under Pressure - Liquefied gas	H280 Contains gas under pressure; may explode if heated.
Eye Irritation 2A	H319 Causes serious eye irritation.
Carcinogenicity 2	H351 Suspected of causing cancer. Route of exposure: Inhalation.
Specific Target Organ Toxicity - Single Exposure 3	H336 May cause drowsiness or dizziness.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to organs through prolonged or repeated exposure.

Additional information:
GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Suspected of causing cancer. Route of exposure: Inhalation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store in a well-ventilated place.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	15-25%
74-98-6	propane	15-25%
7727-43-7	barium sulfate	5-10%
106-97-8	n-butane	5-10%
110-19-0	Isobutyl Acetate	5-10%
2807-30-9	Glycol Ether EP	≥5-<10%
123-86-4	butyl acetate	1-5%
108-65-6	PM acetate	1-5%
107-87-9	Methyl Propyl Ketone	1-5%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.

(Contd. on page 2)

Safety Data Sheet

Trade name: ALLIS CHALMERS ORANGE

(Contd. of page 1)

Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards: Can form explosive gas-air mixtures.

Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.

Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.
Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 500 ppm Long-term value: 250 ppm A4, BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	see Appendix F Minimal oxygen content (D, EX)
7727-43-7 barium sulfate	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 1000 ppm (EX)
110-19-0 Isobutyl Acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
123-86-4 butyl acetate	
PEL (USA)	Long-term value: 710 mg/m³, 150 ppm
REL (USA)	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm Long-term value: 50 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm

(Contd. on page 3)

Safety Data Sheet

Printing date 01/17/2024 Revised On 01/17/2024

Trade name: ALLIS CHALMERS ORANGE

(Contd. of page 2)

REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 150 ppm

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	25 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a NIOSH approved respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection: Nitrile gloves.
The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47.2 °F)

Flash point: -19 °C (-2.2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Water: 0.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

110-19-0 Isobutyl Acetate		
Oral	LD50	4,763 mg/kg (rbt)
123-86-4 butyl acetate		
Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)
108-65-6 PM acetate		
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.

(Contd. on page 4)

Safety Data Sheet

Trade name: ALLIS CHALMERS ORANGE

(Contd. of page 3)

Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), heavy metals (chromium, lead, cadmium), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number UN1950
DOT UN1950
DOT Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1 Gases
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7	barium sulfate

Toxic Substances Control Act (TSCA): All hazardous ingredients are found on the inventory list of substances.
Canadian Domestic Substances List (DSL): All ingredients are listed or exempted.
Consumer Product Safety Comission (CPSC): This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

108-10-1	methyl isobutyl ketone
13463-67-7	titanium dioxide
100-41-4	ethyl benzene

Prop 65 chemicals known to cause birth defects or reproductive harm:

108-10-1	methyl isobutyl ketone

EPA:

67-64-1	Acetone	I
7727-43-7	barium sulfate	D, CBD(inh), NL(oral)
110-19-0	Isobutyl Acetate	D

16 Other information

Contact: Regulatory Affairs

SAFETY DATA SHEET

1. Identification

Product identifier **Brakleen® Brake Parts Cleaner - 20 oz**

Other means of identification

Product Code No. 05050PS (Item# 1008009)

Recommended use Brake parts cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not apply while equipment is energized. Extinguish all flames, pilot lights, and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist/vapor. Wash thoroughly after handling. Wear eye protection/face protection. Wear protective gloves. Avoid release to the environment.

Response	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
acetone		67-64-1	40 - 50
methyl acetate		79-20-9	30 - 40
carbon dioxide		124-38-9	5 - 10
naphtha (petroleum), hydrotreated light		64742-49-0	3 - 5
heptane, branched, cyclic and linear		426260-76-6	1 - 3
solvent naphtha (petroleum), light aliph.		64742-89-8	1 - 3
3-methylhexane		589-34-4	< 1
n-heptane		142-82-5	< 1
2-methylhexane		591-76-4	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Remove all possible sources of ignition in the surrounding area. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label.
Conditions for safe storage, including any incompatibilities	Level 2 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
acetone (CAS 67-64-1)	PEL	2400 mg/m3
		1000 ppm
carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm
methyl acetate (CAS 79-20-9)	PEL	610 mg/m3
		200 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	PEL	400 mg/m3
		100 ppm
n-heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	PEL	400 mg/m3
		100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2-methylhexane (CAS 591-76-4)	STEL	500 ppm
	TWA	400 ppm
3-methylhexane (CAS 589-34-4)	STEL	500 ppm
	TWA	400 ppm
acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
methyl acetate (CAS 79-20-9)	STEL	250 ppm
	TWA	200 ppm
n-heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
methyl acetate (CAS 79-20-9)	STEL	760 mg/m3
		250 ppm
	TWA	610 mg/m3
		200 ppm
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	TWA	400 mg/m3
		100 ppm
n-heptane (CAS 142-82-5)	Ceiling	1800 mg/m3
		440 ppm
	TWA	350 mg/m3
		85 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	TWA	400 mg/m3
		100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Butyl rubber.

Other Wear suitable protective clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 132.9 °F (56.1 °C) estimated

Flash point < 0 °F (< -17.8 °C)

Evaporation rate Fast.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.1 % estimated

Flammability limit - upper (%) 16 % estimated

Vapor pressure 4034.1 hPa estimated

Vapor density > 1 (air = 1)

Relative density 0.87 estimated

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	539.6 °F (282 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Percent volatile	93.3 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Acids. Aluminum. Nitrates.
Hazardous decomposition products	Carbon oxides. Hydrocarbon fumes and smoke. Aldehydes. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
3-methylhexane (CAS 589-34-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 20 mg/l, 4 hours
Oral		
LD50	Rat	> 2000 mg/kg
acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	> 15800 mg/kg 20000 mg/kg
Inhalation		
LC50	Rat	76 mg/l, 4 Hours
Oral		
LD50	Rat	5800 mg/kg
carbon dioxide (CAS 124-38-9)		
Acute		
Inhalation		
Gas		
LC50	Rat	470000 ppm, 30 minutes

Components	Species	Test Results
heptane, branched, cyclic and linear (CAS 426260-76-6)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 60 mg/l, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg
methyl acetate (CAS 79-20-9)		
Acute		
Oral		
LD50	Rabbit	3.7 g/kg
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	61 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
n-heptane (CAS 142-82-5)		
Acute		
Dermal		
LD50	Rabbit	3000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 73.5 mg/l, 4 hours
Oral		
LD50	Rat	25000 mg/kg
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	61 mg/l, 4 Hours
Oral		
LD50	Rat	> 3000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation. May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
acetone (CAS 67-64-1)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Acute			
Crustacea	EC50	Daphnia magna	10294 - 17704 mg/l, 48 hours
heptane, branched, cyclic and linear (CAS 426260-76-6)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.5 mg/l, 48 hours
methyl acetate (CAS 79-20-9)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	295 - 348 mg/l, 96 hours
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	1 - 10 mg/l, 48 hours
Fish	LC50	Fish	1 - 10 mg/l, 96 hours
n-heptane (CAS 142-82-5)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	2.1 - 2.98 mg/l, 96 hours
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.5 mg/l, 48 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

acetone	-0.24
methyl acetate	0.18
n-heptane	4.66

Bioconcentration factor (BCF)

naphtha (petroleum), hydrotreated light	10 - 25000

Mobility in soil No data available.

Other adverse effects	The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	This material and its container must be disposed of as hazardous waste. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F F003: Waste Non-halogenated Solvent - Spent Non-halogenated Solvent
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

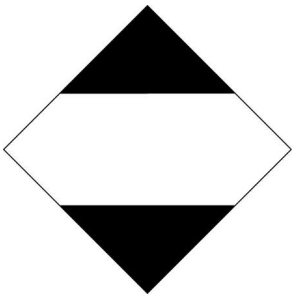
IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT; IMDG



IATA

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

acetone (CAS 67-64-1)
methyl acetate (CAS 79-20-9)

CERCLA Hazardous Substances: Reportable quantity

acetone (CAS 67-64-1)	5000 LBS
methyl acetate (CAS 79-20-9)	100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

acetone (CAS 67-64-1)	6532

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

acetone (CAS 67-64-1)	35 %WV

DEA Exempt Chemical Mixtures Code Number

acetone (CAS 67-64-1)	6532

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

acetone (CAS 67-64-1)	Low priority
methyl acetate (CAS 79-20-9)	Low priority

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories	Flammable (gases, aerosols, liquids, or solids) Gas under pressure Skin corrosion or irritation Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure) Hazard not otherwise classified (HNOC)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes

SARA 313 (TRI reporting)

Not regulated.

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

3-methylhexane (CAS 589-34-4)
acetone (CAS 67-64-1)
carbon dioxide (CAS 124-38-9)
methyl acetate (CAS 79-20-9)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)

US. Massachusetts RTK - Substance List

2-methylhexane (CAS 591-76-4)
3-methylhexane (CAS 589-34-4)
acetone (CAS 67-64-1)
carbon dioxide (CAS 124-38-9)
methyl acetate (CAS 79-20-9)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)

US. Pennsylvania Worker and Community Right-to-Know Law

3-methylhexane (CAS 589-34-4)
acetone (CAS 67-64-1)
carbon dioxide (CAS 124-38-9)
methyl acetate (CAS 79-20-9)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)

US. Rhode Island RTK

acetone (CAS 67-64-1)
carbon dioxide (CAS 124-38-9)
methyl acetate (CAS 79-20-9)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)

California Proposition 65

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

California Proposition 65 - CRT: Listed date/Carcinogenic substance

acetaldehyde (CAS 75-07-0)	Listed: April 1, 1988
benzene (CAS 71-43-2)	Listed: February 27, 1987
cumene (CAS 98-82-8)	Listed: April 6, 2010
ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
naphthalene (CAS 91-20-3)	Listed: April 19, 2002

California Proposition 65 - CRT: Listed date/Developmental toxin

benzene (CAS 71-43-2)	Listed: December 26, 1997
methanol (CAS 67-56-1)	Listed: March 16, 2012
toluene (CAS 108-88-3)	Listed: January 1, 1991

California Proposition 65 - CRT: Listed date/Male reproductive toxin

benzene (CAS 71-43-2)	Listed: December 26, 1997
n-hexane (CAS 110-54-3)	Listed: December 15, 2017

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

acetone (CAS 67-64-1)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	9.3 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as a Brake Cleaner. This product is compliant for use in all 50 states. *Local restriction: This product cannot be used in the South Coast Air Quality Management District of California.
VOC content (CA)	9.3 %
VOC content (OTC)	9.3 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	03-14-2019
Prepared by	Allison Yoon
Version #	01
Further information	CRC # 1750766
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..
Revision information	This document has undergone significant changes and should be reviewed in its entirety.

8/23/2022

KROIL PENETRANT - ORIGINAL (AEROSOL)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name for US: KROIL PENETRANT – ORIGINAL AEROSOL (formerly known as AeroKroil)
Product Name for Canada: AeroKroil

Product Use: Penetrant/Lubricant for Industrial Use
Manufacturer: Kano Laboratories LLC, 1000 E. Thompson Lane Nashville, TN 37211
Emergency Phone Number: Chemtrec 1 (800) 424-9300
Manufacturer Phone Number: 615-833-4101
Website: www.kroil.com
SDS Date of Preparation: August 23, 2022

SECTION 2: HAZARDS IDENTIFICATION

GHS / HAZCOM 2012 Classification:

HEALTH	PHYSICAL
Skin Irritation Category 2 Eye Irritation Category 2A Aspiration Hazard Category 1 Skin Sensitization Category 1	Flammable Aerosol Category 2 Gas Under Pressure: Compressed Gas

Label Elements

DANGER!

Flammable aerosol.
Contains gas under pressure; may explode if heated. Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May be fatal if swallowed and enters airways.
Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Do not spray on an open flame or other ignition source.
Pressurized container. Do not pierce or burn, even after use.
Wash thoroughly after handling. Avoid breathing mist or vapors.
Contaminated clothing must not be allowed out of the workplace.
Wear protective gloves and eye protection.
IF SWALLOWED: Immediately call a POISON CENTER. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing. If eye irritation persists: Get medical attention.
Protect from sunlight.
Do not expose to temperatures exceeding 50°C/122°F.
Store locked up. Store in a well-ventilated place.
Dispose of contents and container in accordance with local and national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS#	%
Severely Hydrotreated Petroleum Distillates	64742-52-5	30-50
LVP Aliphatic Hydrocarbon	64742-47-8	20-40
Terpene Alcohol*	Proprietary	7-13
Diisobutyl Ketone (2,6-dimethylheptan-4-one; 4-heptanone, 2,6-dimethyl)	108-83-8	7-13
Carbon Dioxide Propellant	124-38-9	1 – 5
Diacetone Alcohol (2-hydroxy-2-methyl-4-pentanone; 4-hydroxy-4-methylpentan-2-one)	123-42-2	1 – <3
Isobutyl Alcohol (1-propanol, 2-methyl-; isobutanol)	78-83-1	1 – <3

The exact percentage has been withheld as a trade secret or is a variation in formula.
***HMIRA claim filed 2022-07-26; RN: 03479770**

SECTION 4: FIRST AID MEASURES

EYE: Rinse thoroughly with water for at least 15 minutes, while holding the eye lids open to be sure the material is washed out. Get medical attention if irritation develops or persists.

SKIN: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or rash occurs. Launder clothing before re-use.

INHALATION: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention if symptoms develop.

INGESTION: Ingestion is an unlikely route of exposure for aerosol products. If ingestion of the concentrate occurs, do NOT induce vomiting. Keep the victim calm and warm. Never give anything by mouth to an unconscious or drowsy person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Get immediate medical attention.

MOST IMPORTANT SYMPTOMS AND EFFECTS, ACUTE AND DELAYED: May cause eye and skin irritation. May cause an allergic skin reaction. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, nausea and vomiting. Harmful or fatal if swallowed. Aspiration into the lungs during ingestion or vomiting may cause lung damage.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED: If swallowed, get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA: Use carbon dioxide, dry chemical or foam. Water may be ineffective but can be used to cool containers and structures.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Flammable aerosol. Contents under pressure. Keep away from heat and open flames. Container may rupture or explode in the heat of a fire. Prolonged exposure to temperatures above 120ºF may cause cans to burst. Never use welding or cutting torch on or near containers (even empty) because product can ignite explosively. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion products may be hazardous: Oxides of carbon, organic compounds, smoke and fumes.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: Wear NIOSH approved positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water. Use shielding to protect against bursting containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed. Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Ventilate the area with explosion-proof equipment.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Report spills and releases as required to appropriate authorities.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Place leaking can in an open pail or pan in a well-ventilated area until the pressure has been released. Cover liquid with an inert absorbent material and collect into an appropriate container for disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash exposed skin thoroughly with soap and water after use. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Do not cut, braze, solder, grind or weld on or near containers. Contents under pressure. Do not puncture, crush or incinerate containers, even when empty. Keep out of the reach of children.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store in a cool, well-ventilated area at temperatures below 120°F. Do not store in direct sunlight. Store as a Level 3 aerosol.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL NAME	EXPOSURE LIMITS
Severely Hydrotreated Petroleum Distillates (as mineral oil)	5 mg/m^3 TWA OSHA PEL (as oil mist) 5 mg/m^3 TWA ACGIH TLV (inhalable fraction)
LVP Aliphatic Hydrocarbon	100 ppm TWA Manufacturer Recommended
Terpene Alcohol	None Established
Diisobutyl Ketone	50 ppm TWA OSHA PEL 25 ppm TWA ACGIH TLV
Carbon Dioxide Propellant	5000 ppm TWA OSHA PEL 5000 ppm TWA ACGIH TLV 30000 ppm STEL ACGIH TLV
Diacetone Alcohol	50 ppm OSHA TWA PEL- 50 ppm TWA ACGIH TLV
Isobutyl Alcohol	100 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV

APPROPRIATE ENGINEERING CONTROLS: Use with adequate general or local exhaust ventilation to maintain concentrations below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION: If the exposure limits listed above are exceeded, a NIOSH approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

HAND PROTECTION: Impervious gloves are recommended when needed to avoid skin contact.

EYE PROTECTION: Chemical safety goggles recommended.

SKIN PROTECTION: Impervious clothing as required to prevent skin contact and contamination of personal clothing.

HYGIENE MEASURES: Suitable eye wash and washing facilities should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Slightly reddish liquid packaged as an aerosol	**Odor:**	Solvent
Odor Threshold:	Not available	**pH:**	Not available
Melting/Freezing Point:	Not available	**Boiling Point/Range:**	Not available
Flash Point:	132°F (55.5°C) TOC	**Evaporation Rate:**	Not available
Flammability (Solid, Gas):	Not applicable	**Flammability Limits:**	UEL: 10.9% (aliphatic alcohol #2) LEL: 0.6% (LVP Aliphatic Hydrocarbon)
Vapor Pressure:	Not available	**Vapor Density:**	Not available
Relative Density:	0.8596	**Solubilities:**	Negligible in Water
Partition Coefficient: (N-Octanol/Water)	Not available	**Auto Ignition:**	Not available
Decomposition Temperature:	Not available	**Viscosity:**	Not available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: None known.

CHEMICAL STABILITY: Stable under normal conditions of storage or use.

POSSIBILITY OF HAZARDOUS REACTIONS: None known.

CONDITIONS TO AVOID: Avoid heat, sparks, flames and all other sources of ignition. Do not puncture or incinerate containers.

INCOMPATIBLE MATERIALS: Avoid strong oxidizing agents, reducing agents, acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce oxides of carbon, acetone, acrid fumes and smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

EYE: May cause eye irritation with redness, tearing and stinging.

SKIN: May cause irritation with redness, rash, swelling. Prolonged or repeated contact may result in defatting and dermatitis. Repeated skin contact may cause sensitization (allergic skin reaction) in some individuals.

INHALATION: Inhalation of vapors or mists may cause mucous membrane and upper respiratory tract irritation and central nervous system depression. Symptoms may include coughing, wheezing, shortness of breath, headache, dizziness, drowsiness, nausea, fatigue and unconsciousness.

INGESTION: Ingestion is an unlikely route of exposure for aerosol products. Swallowing may cause gastrointestinal irritation with abdominal pain, nausea, vomiting and diarrhea and central nervous system depression with symptoms including headache, dizziness, intoxication, weakness, nausea, and vomiting. Aspiration into the lungs during ingestion or vomiting may cause lung damage.

CHRONIC HAZARDS: None expected

CARCINOGEN STATUS: None of the components of this product at greater than 0.1% are listed as carcinogens by OSHA, IARC or NTP.

ACUTE TOXICITY: Toxicological testing has not been performed on this product as a mixture.
Severely Hydrotreated Petroleum Distillates: Oral rat LD50 >5000 mg/kg, Dermal rabbit LD50 >2000 mg/kg, Inhalation rat LC50 2.18 mg/L/4hr
LVP Aliphatic Hydrocarbon: Oral rat LD50 >2000 mg/kg, Dermal rat LD50 >5000 mg/kg, Inhalation rat LC50 > 6.8 mg/L/4 hr.
Terpene Alcohol: Oral rat LD50 3200 mg/kg, Dermal rabbit LD50 5000 mg/kg
Diisobutyl Ketone: Oral rat LD50 5233 mg/kg, Dermal rat LD50 >2000 mg/kg, Inhalation rat LC50 14.5 mg/L/4 hr.
Diacetone Alcohol: Oral rat LD50 3002 mg/kg, Dermal rat LD50 >1875 mg/kg, Inhalation rat LC50 >7.6 mg/L/4hr.
Isobutyl Alcohol: Oral rat LD50 > 2830 mg/kg, Inhalation rat LC50 24.6 mg/L/4 hr, Dermal rabbit LD50 >2000 mg/kg
Carbon Dioxide: Inhalation rat LC50 167857 ppm/4hr

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: No toxicity data available for the product.
Severely Hydrotreated Petroleum Distillates: 48 hr EC50 daphnia magna >1000 mg/L
LVP Aliphatic Hydrocarbon: 96 hr LC50 Oncorhynchus mykiss 2.9 mg/L
Terpene Alcohol: 48 hr EC50 daphnia magna 17-28 mg/L
Diisobutyl Ketone: 96 hr LC50 Oncorhynchus mykiss 30 mg/L, 48 hr EC50 daphnia magna 37.2 mg/L,
Diacetone Alcohol: 96 hr. LC50 Oryzias latipes >100 mg/L; 48 hr. EC50 daphnia magna >1000 mg/L; 72 hr.
EC50 Pseudokirchnerella subcapitata>1000 mg/L
Isobutyl Alcohol: 96 hr LC50 Pimephales promelas 1430 mg/L; 48 hr EC50 daphnia pulex 1100 mg/L; 72 hr
EC50 Pseudokirchnerella subcapitata 1799 mg/L
Carbon Dioxide: 96 hr LC50 Oncorhynchus mykiss 35 mg/L

PERSISTENCE AND DEGRADABILITY: Diacetone Alcohol and Isobutyl Alcohol are readily biodegradable.

BIOACCUMULATIVE POTENTIAL: No data available.

MOBILITY IN SOIL: No data available

OTHER ADVERSE EFFECTS: None known

SECTION 13: DISPOSAL INFORMATION

DISPOSAL INSTRUCTIONS: Dispose of product in accordance with all local, state/provincial and federal regulations. Do not puncture or incinerate.

CONTAMINATED PACKAGING: Offer empty packaging material to local recycling facilities.

SECTION 14: TRANSPORT INFORMATION

	UN NUMBER	PROPER SHIPPING NAME	HAZARD CLASS	PACKING GROUP	ENVIRONMENTAL HAZARD
DOT / 49 CFR GROUND		Limited Quantity			
DOT AIR	UN1950	Aerosols, Flammable, Limited Quantity	2.1	None	None
IMDG	UN1950	Aerosols, Limited Quantity	2.1	None	None
IATA	UN1950	Aerosols, Flammable, Limited Quantity	2.1	None	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product has a Reportable Quantity (RQ) of 166,666 lbs. (based on the RQ for Isobutyl Alcohol of 5,000 lbs present at <3%). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

STATE REPORTING REGULATIONS:

California Proposition 65:  WARNING: This product can expose you to chemicals including beta-myrcene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

SARA TITLE III:

Hazard Category for Section 311/312: Refer to Section 2 for the OSHA Hazard Classification

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None.

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

Canadian DSL: All of the components of this product are listed on the Canadian Domestic Substances List

SECTION 16: OTHER INFORMATION

HMIS RATINGS:	Health – 2	Flammability - 4	Physical Hazard - 0
NFPA RATINGS:	Health - 2	Flammability - 2	Instability - 0

SDS REVISION HISTORY: Updated Section 3, 8, 11, 12, and 15.

DATE OF PREPARATION: August 23, 2022

DATE OF PREVIOUS REVISION-U.S.: June 10, 2021

DATE OF PREVIOUS REVISION-CANADA: July 20, 2022

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or the consequences of its use or misuse.

SAFETY DATA SHEET

1. Identification

Product identifier **Liquid Wrench Lubricating Oil**

Other means of identification

SDS number L212

Part No. L212, L206

Tariff code 3403.19.1000

Recommended use Lubricant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Blaster LLC

Address 8500 Sweet Valley Drive Valley View, Ohio 44125 - USA

Telephone T(216)901-5800

F (216)901-5801

Website www.blastercorp.com

Emergency phone number Chemtrec (800) 424-9300

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
Health hazards	Acute toxicity, inhalation	Category 4
	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Combustible.
Supplemental information	NOTE: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The container label may not include the OSHA label elements listed in this document. Always carefully review the entire SDS and the product label prior to use in the workplace.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
ISOPARAFFINIC PETROLEUM DISTILLATE		64742-47-8	70 - < 80
Butoxydiglycol		112-34-5	5 - < 10
Distillates (petroleum), Hydrotreated Heavy Naphthenic		64742-52-5	5 - < 10
Carbon Dioxide		124-38-9	1 - < 3
Polytetrafluoroethylene (PTFE)		9002-84-0	< 0.2
Boron Nitride		10043-11-5	< 0.1
Other components below reportable levels			3 - < 5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Powder. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol. Combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is immiscible with water and will spread on the water surface. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3 5000 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
ISOPARAFFINIC PETROLEUM DISTILLATE (CAS 64742-47-8)	PEL	400 mg/m3	
		100 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Butoxydiglycol (CAS 112-34-5)	TWA	10 ppm	Inhalable fraction and vapor.
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm	
	TWA	5000 ppm	
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	STEL	54000 mg/m3	
		30000 ppm	
	TWA	9000 mg/m3	
		5000 ppm	
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Nitrile gloves are recommended.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece. Chemical respirator with organic vapor cartridge and full facepiece if threshold limits are exceeded.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Opaque Liquid

Physical state	Liquid.
Form	Aerosol.
Color	Yellow
Odor	Sweet Vanilla
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-54.65 °F (-48.14 °C) estimated
Initial boiling point and boiling range	473.84 °F (245.47 °C) estimated
Flash point	> 200.0 °F (> 93.3 °C) Tag Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	10.65811 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	522.43 °F (272.46 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	7.41216 lbs/gal
Explosive properties	Not explosive.
Flammability (flash back)	No
Heat of combustion (NFPA 30B)	36.74 kJ/g estimated
Kinematic viscosity	18 cSt
Kinematic viscosity temperature	104 °F (40 °C)
Oxidizing properties	Not oxidizing.
Specific gravity	0.88822
VOC	0 % w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

Skin contact No adverse effects due to skin contact are expected.

Eye contact Causes serious eye irritation.

Ingestion Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
Butoxydiglycol (CAS 112-34-5)		
Acute		
Dermal		
LD50	Rabbit	2700 mg/kg
Oral		
LD50	Rat	3306 mg/kg
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 3.9 mg/l, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Polytetrafluoroethylene (PTFE) (CAS 9002-84-0) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5) Known To Be Human Carcinogen.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
Butoxydiglycol (CAS 112-34-5)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	1300 mg/l, 96 hours
ISOPARAFFINIC PETROLEUM DISTILLATE (CAS 64742-47-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 5.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Butoxydiglycol	0.56

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

DOT

UN number UN1950
UN proper shipping name Aerosols, flammable, (each not exceeding 1 L capacity), Limited Quantity
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Label(s) 2.1
Packing group Not available.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions N82
Packaging exceptions 306
Packaging non bulk None
Packaging bulk None

IATA

UN number UN1950
UN proper shipping name Aerosol, flammable, Limited Quantity
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not available.
Environmental hazards Yes

ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

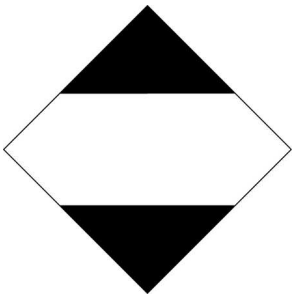
IMDG

UN number	UN1950
UN proper shipping name	Aerosols, MARINE POLLUTANT (Petroleum Distillates), Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

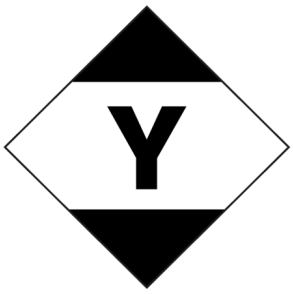
Petroleum Distillates

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT; IMDG



IATA



Marine pollutant

General information IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

Polytetrafluoroethylene (PTFE) (CAS 9002-84-0) Long-Chain Perfluorinated Chemicals (PFCs) Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)

Butoxydiglycol (CAS 112-34-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Germ cell mutagenicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Butoxydiglycol	112-34-5	5 - < 10

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Butoxydiglycol (CAS 112-34-5)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Butoxydiglycol (CAS 112-34-5)
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-29-2015

Revision date 02-28-2023

Version # 09

HMIS® ratings
Health: 3*
Flammability: 2
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 2
Instability: 0

NFPA ratings

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

SAFETY DATA SHEET

1. Identification

Product identifier **Food Grade Belt Dressing**

Other means of identification

Product Code No. 03065 (Item# 1003326)

Recommended use Belt dressing

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes eye irritation. May cause drowsiness or dizziness. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not apply while equipment is energized. Extinguish all flames, pilot lights, and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist/vapor. Wash thoroughly after handling. Wear protective gloves. Avoid release to the environment.

Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Collect spillage.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
naphtha (petroleum), hydrotreated light		64742-49-0	30 - 40
liquefied petroleum gas		68476-86-8	20 - 30
n-heptane		142-82-5	10 - 20
3-methylhexane		589-34-4	5 - 10
methylcyclohexane		108-87-2	5 - 10
polyisobutylene		9003-27-4	5 - 10
2-methylhexane		591-76-4	3 - 5
2,3-dimethylpentane		565-59-3	1 - 3
3-ethylpentane		617-78-7	1 - 3
3,3-dimethylpentane		562-49-2	< 1

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Remove all possible sources of ignition in the surrounding area. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
methylcyclohexane (CAS 108-87-2)	PEL	2000 mg/m3
		500 ppm
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	PEL	400 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
		100 ppm
n-heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2,3-dimethylpentane (CAS 565-59-3)	STEL	500 ppm
	TWA	400 ppm
2-methylhexane (CAS 591-76-4)	STEL	500 ppm
	TWA	400 ppm
3,3-dimethylpentane (CAS 562-49-2)	STEL	500 ppm
	TWA	400 ppm
3-ethylpentane (CAS 617-78-7)	STEL	500 ppm
	TWA	400 ppm
3-methylhexane (CAS 589-34-4)	STEL	500 ppm
	TWA	400 ppm
methylcyclohexane (CAS 108-87-2)	TWA	400 ppm
n-heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
methylcyclohexane (CAS 108-87-2)	TWA	1600 mg/m3
		400 ppm
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	TWA	400 mg/m3
		100 ppm
n-heptane (CAS 142-82-5)	Ceiling	1800 mg/m3
		440 ppm
	TWA	350 mg/m3
		85 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Viton/butyl. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing.

Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Aerosol.
Color	Colorless.
Odor	Hydrocarbon-like.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-195.9 °F (-126.6 °C) estimated
Initial boiling point and boiling range	201.2 °F (94 °C) estimated
Flash point	15.8 °F (-9 °C) estimated
Evaporation rate	Fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1 % estimated
Flammability limit - upper (%)	7 % estimated
Vapor pressure	1507.3 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.66 estimated
Solubility(ies)	
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	509 °F (265 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Percent volatile	91 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
3-methylhexane (CAS 589-34-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 20 mg/l, 4 hours
Oral		
LD50	Rat	> 2000 mg/kg
methylcyclohexane (CAS 108-87-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 4000 mg/kg
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	61 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
n-heptane (CAS 142-82-5)		
Acute		
Dermal		
LD50	Rabbit	3000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 73.5 mg/l, 4 hours
Oral		
LD50	Rat	25000 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
polyisobutylene (CAS 9003-27-4)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 5600 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

methylcyclohexane	3.61
n-heptane	4.66

Bioconcentration factor (BCF)

naphtha (petroleum), hydrotreated light	10 - 25000

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions If discarded, this product is considered a RCRA ignitable waste, D001. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1950

UN proper shipping name Aerosols, flammable, Limited Quantity

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s) 2.1

Packing group Not applicable.

Environmental hazards

Marine pollutant Yes, but exempt from the regulations.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

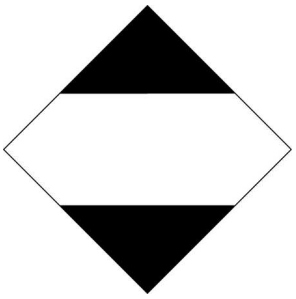
IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes, but exempt from the regulations.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT; IMDG



IATA

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories	Flammable (gases, aerosols, liquids, or solids) Gas under pressure Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure) Aspiration hazard Hazard not otherwise classified (HNOC)

SARA 302 Extremely hazardous substance

Not listed.

SARA 313 (TRI reporting)

Not regulated.

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

2,3-dimethylpentane (CAS 565-59-3)
3-methylhexane (CAS 589-34-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)

US. Massachusetts RTK - Substance List

2,3-dimethylpentane (CAS 565-59-3)
2-methylhexane (CAS 591-76-4)
3-methylhexane (CAS 589-34-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)

US. Pennsylvania Worker and Community Right-to-Know Law

2,3-dimethylpentane (CAS 565-59-3)
2-methylhexane (CAS 591-76-4)
3,3-dimethylpentane (CAS 562-49-2)
3-methylhexane (CAS 589-34-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)

US. Rhode Island RTK

methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

liquefied petroleum gas (CAS 68476-86-8)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	100 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	92.8 %
VOC content (OTC)	92.8 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	02-12-2014
Revision date	10-30-2018
Prepared by	Allison Yoon
Version #	03
Further information	CRC # 1750897
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..
Revision information	This document has undergone significant changes and should be reviewed in its entirety.

SAFETY DATA SHEET

1. Identification

Product identifier **SP-400™ Corrosion Inhibitor**

Other means of identification

Product code 03286, 03288

Recommended use Long term corrosion inhibitor

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause damage to organs (skin, eyes, central nervous system, respiratory system) through prolonged or repeated exposure. Toxic to aquatic life.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection. Avoid release to the environment.

Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If skin irritation occurs: Get medical attention. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Wash contaminated clothing before reuse. In case of fire: Do not use water jet as an extinguisher, as this will spread the fire.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Stoddard Solvent		8052-41-3	40 - 50
Distillates (petroleum), hydrotreated light		64742-47-8	10 - 20
Petrolatum, Micro Soft Wax		8009-03-8	< 0.3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Use care in handling/storage. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Petrolatum, Micro Soft Wax (CAS 8009-03-8)	PEL	5 mg/m3	Mist.
Stoddard Solvent (CAS 8052-41-3)	PEL	2900 mg/m3	
		500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Petrolatum, Micro Soft Wax (CAS 8009-03-8)	TWA	5 mg/m3	Inhalable fraction.
Stoddard Solvent (CAS 8052-41-3)	TWA	100 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	100 mg/m3	
Petrolatum, Micro Soft Wax (CAS 8009-03-8)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Stoddard Solvent (CAS 8052-41-3)	Ceiling	1800 mg/m3	
	TWA	350 mg/m3	

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Neoprene.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Dark amber.

Odor Petroleum.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -94 °F (-70 °C) estimated

Initial boiling point and boiling range 302 °F (150 °C) estimated

Flash point 119 °F (48.3 °C) Tag Closed Cup

Evaporation rate Slow.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 0.7 % estimated

Flammability limit - upper (%) 6 % estimated

Vapor pressure 1.9 hPa estimated

Vapor density > 1 (air = 1)

Relative density 0.87

Solubility (water) Insoluble.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 410 °F (210 °C) estimated

Decomposition temperature Not available.

Viscosity (kinematic) Not available.

Percent volatile	50.2 % estimated

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Acids. Fluorine.
Hazardous decomposition products	Carbon oxides. Aldehydes.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects.

Product	Species	Test Results
SP-400™ Corrosion Inhibitor		
Acute		
Dermal		
LD50	Rabbit	2797.2341 mg/kg estimated
Inhalation		
LC50	Rat	12.0898 mg/l estimated
Oral		
LD50	Rat	6109.5884 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Stoddard Solvent (CAS 8052-41-3) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure: Skin. Eyes. Central nervous system. Respiratory system.
Aspiration hazard	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.

Chronic effects Prolonged exposure may cause chronic effects. May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Product		Species	Test Results
SP-400™ Corrosion Inhibitor			
Aquatic			
Acute			
Fish	LC50	Fish	2207 mg/l, 96 hours estimated

Components		Species	Test Results
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	45 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)
Stoddard Solvent 3.16 - 7.15

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products If discarded, this product is considered a RCRA ignitable waste, D001. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods by ground.

DOT

Air

UN number UN1993
UN proper shipping name Flammable liquids, n.o.s. (Stoddard Solvent, Petroleum distillates)
Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions B1, B52, IB3, T4, TP1, TP29
Packaging exceptions 150
Packaging non bulk 203
Packaging bulk 242

DOT

Maritime

UN number UN1993
UN proper shipping name Flammable liquids, n.o.s. (Stoddard Solvent, Petroleum distillates)
Transport hazard class(es)
Class 3

Subsidiary risk	-
Label(s)	3
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Stoddard Solvent, Petroleum distillates)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Stoddard Solvent, Petroleum distilates)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Stoddard Solvent (CAS 8052-41-3)

US. Massachusetts RTK - Substance List

Stoddard Solvent (CAS 8052-41-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Distillates (petroleum), hydrotreated light (CAS 64742-47-8)
Petrolatum, Micro Soft Wax (CAS 8009-03-8)
Stoddard Solvent (CAS 8052-41-3)

US. Rhode Island RTK

None.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	50.2 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	50.2 %
VOC content (OTC)	50.2 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	11-13-2014
Revision date	12-01-2014
Prepared by	Allison Cho
Version #	02
Further information	CRC # 523B
HMIS® ratings	Health: 2* Flammability: 2 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 2 Flammability: 2 Instability: 0
NFPA ratings	
Disclaimer	CRC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

1. Identification

Product identifier **Power Lube® High Performance Lubricant w/PTFE - 11 oz**

Other means of identification

Product Code No. 03045 (Item# 1003304)

Recommended use Multi-purpose lubricant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not apply while equipment is energized. Extinguish all flames, pilot lights, and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area.

Response If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting.

Storage Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
distillates (petroleum), hydrotreated light		64742-47-8	50 - 60
paraffin oils (petroleum), catalytic dewaxed heavy		64742-70-7	5 - 10
paraffin oils (petroleum), catalytic dewaxed light		64742-71-8	5 - 10
butyl stearate		123-95-5	3 - 5
distillates (petroleum), hydrotreated heavy paraffinic		64742-54-7	3 - 5
methyl acetate		79-20-9	3 - 5
antimony tris[o,o-dipropyl] tris(dithiophosphate)		15874-48-3	1 - 3
carbon dioxide		124-38-9	1 - 3
methyl salicylate		119-36-8	1 - 3
petrolatum		8009-03-8	1 - 3
distillates (petroleum), solvent-dewaxed heavy paraffinic		64742-65-0	0.5 - 1.5
distillates (petroleum), hydrotreated heavy naphthenic		64742-52-5	0.1 - 1

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Aspiration may cause pulmonary edema and pneumonitis. Headache. Nausea, vomiting. Diarrhea. Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Alcohol resistant foam. Dry chemicals. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.

General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame. Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Remove all possible sources of ignition in the surrounding area. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label.
Conditions for safe storage, including any incompatibilities	Level 2 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

U.S. - OSHA

Components	Type	Value
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	TWA	5 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)	PEL	0.5 mg/m3	
carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3	
		5000 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	PEL	5 mg/m3	Mist.
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
methyl acetate (CAS 79-20-9)	PEL	610 mg/m3	
		200 ppm	
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)	PEL	5 mg/m3	Mist.
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)	PEL	5 mg/m3	Mist.
petrolatum (CAS 8009-03-8)	PEL	5 mg/m3	Mist.

ACGIH

Components	Type	Value	Form
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	TWA	5 mg/m3	Inhalable fraction

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)	TWA	0.5 mg/m3	
butyl stearate (CAS 123-95-5)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm	
	TWA	5000 ppm	
distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	TWA	5 mg/m3	Inhalable fraction.
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	TWA	5 mg/m3	Inhalable fraction.
methyl acetate (CAS 79-20-9)	STEL	250 ppm	
	TWA	200 ppm	
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)	TWA	5 mg/m3	Inhalable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)	TWA	5 mg/m3	Inhalable fraction.
petrolatum (CAS 8009-03-8)	TWA	5 mg/m3	Inhalable fraction.

U.S. - NIOSH

Components	Type	Value	Form
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	STEL	10 mg/m3	Mist
	TWA	5 mg/m3	Mist

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)	TWA	0.5 mg/m3	
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3	
		30000 ppm	
	TWA	9000 mg/m3	
		5000 ppm	
distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	100 mg/m3	
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
methyl acetate (CAS 79-20-9)	STEL	760 mg/m3	
		250 ppm	
	TWA	610 mg/m3	
		200 ppm	
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
petrolatum (CAS 8009-03-8)	STEL	10 mg/m3	Mist.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
	TWA	5 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Neoprene. Nitrile.

Other Wear suitable protective clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Amber.

Odor Wintergreen.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -144.4 °F (-98 °C) estimated

Initial boiling point and boiling range 134.2 °F (56.8 °C) estimated

Flash point 8.6 °F (-13.0 °C) estimated

Evaporation rate Fast.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 0.5 % estimated

Flammability limit - upper (%) 16 % estimated

Vapor pressure 1815 hPa estimated

Vapor density > 1 (air = 1)

Relative density 0.86

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 428 °F (220 °C) estimated

Decomposition temperature Not available.

Viscosity Not available.

Percent volatile 86.9 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Hydrogen fluoride. Metal oxides. Phosphorous oxides. Sulfur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Based on available data, the classification criteria are not met.
Eye contact	Based on available data, the classification criteria are not met.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Headache. Nausea, vomiting. Diarrhea.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)		
Acute		
Dermal		
LD50	Rabbit	3936 mg/kg
Oral		
LD50	Rat	4965 mg/kg
distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
distillates (petroleum), hydrotreated light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 5 mg/l, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	3 Not classifiable as to carcinogenicity to humans.
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	3 Not classifiable as to carcinogenicity to humans.
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

methyl acetate	0.18
methyl salicylate	2.55

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions If discarded, this product is considered a RCRA ignitable waste, D001. Empty container can be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

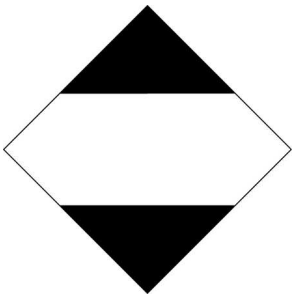
IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT; IMDG



IATA

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)

CERCLA Hazardous Substance List (40 CFR 302.4)

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)
methyl acetate (CAS 79-20-9)

CERCLA Hazardous Substances: Reportable quantity

methyl acetate (CAS 79-20-9)	100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

methyl acetate (CAS 79-20-9)	Low priority

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Gas under pressure
Aspiration hazard
Hazard not otherwise classified (HNOC)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
antimony tris[o,o-dipropyl] tris(dithiophosphate)	15874-48-3	1 - 3

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)
carbon dioxide (CAS 124-38-9)
methyl acetate (CAS 79-20-9)

US. Massachusetts RTK - Substance List

carbon dioxide (CAS 124-38-9)
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)
methyl acetate (CAS 79-20-9)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)
petrolatum (CAS 8009-03-8)

US. Pennsylvania Worker and Community Right-to-Know Law

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)
carbon dioxide (CAS 124-38-9)
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)
distillates (petroleum), hydrotreated light (CAS 64742-47-8)
methyl acetate (CAS 79-20-9)
methyl salicylate (CAS 119-36-8)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)
petrolatum (CAS 8009-03-8)

US. Rhode Island RTK

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)
carbon dioxide (CAS 124-38-9)
distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)
distillates (petroleum), hydrotreated light (CAS 64742-47-8)
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)
methyl acetate (CAS 79-20-9)
methyl salicylate (CAS 119-36-8)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)
petrolatum (CAS 8009-03-8)

California Proposition 65

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

California Proposition 65 - CRT: Listed date/Carcinogenic substance

lead (CAS 7439-92-1)	Listed: October 1, 1992

California Proposition 65 - CRT: Listed date/Developmental toxin

lead (CAS 7439-92-1)	Listed: February 27, 1987
methanol (CAS 67-56-1)	Listed: March 16, 2012

California Proposition 65 - CRT: Listed date/Female reproductive toxin

lead (CAS 7439-92-1)	Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Male reproductive toxin

lead (CAS 7439-92-1)	Listed: February 27, 1987

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

antimony tris[o,o-dipropyl] tris(dithiophosphate) (CAS 15874-48-3)
distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)
distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)
distillates (petroleum), hydrotreated light (CAS 64742-47-8)
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)
petrolatum (CAS 8009-03-8)

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	97.8 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as a Multi-Purpose Lubricant. This product is compliant for use in all 50 states.

VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	11-12-2019
Revision date	11-20-2020
Prepared by	Allison Yoon
Version #	02
Further information	CRC # 1751766
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..
Revision information	This document has undergone significant changes and should be reviewed in its entirety.

Safety Data Sheet

RELTON NEW RAPID TAP CUTTING FLUID

Product: NEW RAPID TAP Revision date: 2021/09/28

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name: NEW RAPID TAP.

Synonyms: None

Chemical family: Not available.

Product uses: Cutting oil.

Supplier: Same as manufacturer.

Manufacturer: Relton Corporation
317 Rolyn Place
Arcadia, CA 91007-2838.

Manufacturer emergency phone number: Chemtrec 800-424-9300 (24h).

Information phone number: 800-423-1505.

Section 2: HAZARD IDENTIFICATION

GHS Classification

Health Hazard Class(es): Acute toxicity, category 4 (oral).

Physical Hazard Class(es): No physical hazard class.

Environmental Hazard Class(es): Acute hazards to the aquatic environment, category 1.
Chronic hazards to the aquatic environment, category 1.

GHS Label Elements

Symbol:

Signal word: WARNING.

Hazard statement(s): H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s): P201 Obtain special instructions before use.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P263 Avoid contact during pregnancy and while nursing.
P264 Wash face, hands and any exposed skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P330 Rinse mouth.
P391 Collect spillage.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national regulations.

Other hazard(s): Not available.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

C.A.S.	CONCENTRATION %	Ingredient Name	EINECS#
25322-69-4	1-5	POLYETHER POLYOL	
63449-39-8	30-40	CHLORINATED PARAFFIN	264-150-0
64741-96-4	40-45	HEAVY MINERAL OIL	265-097-6
64742-52-5	40-45	HYDROTREATED HEAVY NAPHTHENIC PETROLEUM	265-155-0
	5-10	CALCIUM SULFONATE	

Section 4: FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Flush with large amounts of water, for at least 15 minutes.
Launder contaminated clothing before re-use.
Seek medical attention if irritation persists.

Eye contact: Flush with water for at least 15 minutes.
Check for and remove contact lenses.
Consult a physician if irritation persists.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Obtain medical attention.
Do not induce vomiting.
Never give anything by mouth to an unconscious person.
Rinse mouth with water.

Section 5: FIRE FIGHTING MEASURES

Flammability: Not flammable.

Extinguishing media: Foam
Carbon dioxide.
Powder.
Do not use water spray.

Conditions of flammability: Surrounding fire.

Special procedures: Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.
Use water spray to cool fire exposed containers.
Evacuate area promptly.

Sensitivity to static discharge: Not available.

Sensitivity to mechanical impact: Not available.

Rate of burning: Not available.

Hazardous combustion products: Oxides of carbon (CO, CO2).
Hydrogen chloride (HCl).
Oxides of sulfur (SOx).
Oxides of calcium (CaOx).

Section 6: ACCIDENTAL RELEASE MEASURES

Leak/Spill: Contain the spill.
Absorb with inert material.
Evacuate all non-essential personnel.
Prevent entry into drains, sewers, and other waterways.
Wear appropriate protective equipment.
Contain and collect spilled material.
Place in a chemical waste container for disposal.
Recover as much as possible.

Section 7: HANDLING AND STORAGE

Handling procedures: Avoid breathing vapors/mists.
Use adequate ventilation.
Wash thoroughly after using, particularly before eating or smoking.
Wear personal protective equipment appropriate to task.
Wash clothing before re-use.
Avoid contact with skin, eyes and clothing.
Keep away from food and food products.
Do not eat, drink or smoke in handling area.

Storage procedures: Store away from incompatible materials.
Keep containers closed when not in use.
Keep from freezing.
Keep out of direct sunlight.
Store away from acids and oxidizing materials.
Store in a cool, dry and well ventilated area.
Store away from caustics.
Keep away from heat and all ignition sources.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Gloves/Type:

Chemical resistant gloves.

Respiratory/Type: None required under normal use.

NIOSH approved respirator, if necessary.

Eye/Type:

Chemical safety goggles and/or full face shield.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type: Wear adequate protective clothes.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Local exhaust and/or mechanical ventilation to maintain exposure below TLV.

Exposure limit of material: No exposure limit established for the product.

Occupational exposure limits: CAS# 64742-52-5: TLV 5 mg/m3.
CAS# 64741-96-4: TLV 5 mg/m3.

Ingredients:

C.A.S.	Ingredient Name	T.L.V.	OSHA-PEL TWA	STEL	ACGIH-TLV TWA	STEL	NIOSH STEL
25322-69-4	POLYETHER POLYOL	NOT AVAILABLE					
63449-39-8	CHLORINATED PARAFFIN	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
64741-96-4	HEAVY MINERAL OIL	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
64742-52-5	HYDROTREATED HEAVY NAPHTHENIC PETROLEUM	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
	CALCIUM SULFONATE	NOT AVAILABLE					

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.

Appearance & odor: Amber
Mild petroleum odour.
Oily liquid.

Odor threshold (ppm): Not available.

pH: Not applicable.

Melting point (°C): Not available.

Initial boiling point/Boiling range (°C): Not available.

Freezing point (°C): Not available.

Flash point (°C), method: Not available.

Auto-ignition temperature (°C): Not available.

Explosive power: Not available.

Lower explosive limit: Not available.

Upper explosive limit: Not available.

Vapour pressure (mmHg): < 0.01 @ 20°C.

Specific gravity @ 20 °C: 1.04

Density: Not available.

Relative density: Not available.

Vapour density (air=1): Heavier than air.

Evaporation rate (butyl acetate = 1): Not available.

Solubility in water (%): Insoluble.

Coefficient of water\oil dist.: Not available.

Viscosity: Not available.

VOC: (ASTM E1868-10).
< 10 g/l.

Section 10: STABILITY AND REACTIVITY

Chemical stability: Product is stable under normal handling and storage conditions.

Conditions of instability: Heat, sparks & open flame.
Keep from freezing.

Hazardous polymerization: Not available.

Incompatible substances: Strong oxidizing agents.
Heat, sparks and flames.
Sources of ignition.

Hazardous products of decomposition: Oxides of carbon (CO, CO2).
Hydrogen chloride.
Calcium oxide.
Oxides of sulfur.

Section 11: TOXICOLOGICAL INFORMATION

Effects of Acute Exposure

Route of entry: Skin contact, eye contact, inhalation and ingestion.

Eye contact: Not available.

Skin contact: Not available.

Inhalation: May cause mild irritation.

Ingestion: May cause nausea, vomiting and diarrhea.
May cause gastro-intestinal irritation.
May cause abdominal pain.

Effects of chronic exposure: Not available.

Sensitization to product: Not a sensitizer.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: None known.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

LD50 of product, species & route: No LD50 value established for the product.

LC50 of product, species & route: No LC50 value established for the product.

Ingredients:

C.A.S.	Ingredient Name	LD/50	LC/50
25322-69-4	POLYETHER POLYOL	NOT AVAILABLE	NOT AVAILABLE
63449-39-8	CHLORINATED PARAFFIN	>21,500 UL/KG RAT ORAL >10 ML/KG RABBIT DERMAL 21,800 MG/KG MOUSE ORAL	NOT AVAILABLE
64741-96-4	HEAVY MINERAL OIL	> 5000 MNG/KG RAT ORAL >5000 MG/KG RABBIT DERMAL	NOT AVAILABLE
64742-52-5	HYDROTREATED HEAVY NAPHTHENIC PETROLEUM	> 5000 MG/KG RAT ORAL > 2000 MG/KG RABBIT DERMAL	NOT AVAILABLE
	CALCIUM SULFONATE	NOT AVAILABLE	NOT AVAILABLE

Section 12: ECOLOGICAL INFORMATION

Environmental fate: This material is expected to have adverse effects on marine and plant life.
Spills may contaminate drinking water.

Environmental toxicity: Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Section 13: DISPOSAL CONSIDERATIONS

Waste disposal: Dispose of all waste in accordance with Local, State, and Federal regulations.
Dispose of as unused product.

Section 14: TRANSPORT INFORMATION

TDG classification: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S, (alkanes, C14-C16, chloro)
UN3082
Class 9
PG III.

DOT: Not regulated.

ICAO/IATA: Not available.

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S, (alkanes, C14-C16, chloro)
UN3082
Class 9
PG III.

Special instructions: Not available.

Marine Pollutant: Not available.

Section 15: REGULATORY INFORMATION

DSL status: The substance(s) listed in the ingredients section appear on the Domestic Substances List.

CERCLA reportable quantity: None

TSCA inventory: All ingredients are listed on the TSCA inventory.

SARA Section 313: None

SARA hazard categories sections 311/312: Immediate (Acute) Health Hazard: Yes.
Delayed (Chronic) Health Hazard: No.
Fire Hazard: No.
Sudden Release of Pressure: No.
Reactive: No.

CA Proposition 65: This product does not contain any chemicals currently on the California list of known carcinogens and reproductive toxins.

Health Hazard: 1

Flammability: 1

Physical hazard: 1

NFPA Health Hazard: 1

NFPA Flammability: 1

NFPA Reactivity: 1

NFPA:

Section 16: OTHER INFORMATION

Data prepared by: Conform-Action Data Systems
A division of 2843471 Canada Inc.
1840 Transcanada, suite 101
Dorval, QC H9P 1H7
Tel: (514) 683-2060
Fax: (514) 683-1445
support@netmsds.com.

Date of the supplier's latest SDS revision: 2021/06/11.

This SDS was generated by *Conform-Plus* Application Service. Visit us at www.netmsds.com.

KOP-COAT

Safety Data Sheet

1. Identification

Product Information. 19080

Product Name: End Shield™ Concentrate

Recommended Use. Water repellent

Uses advised against. No information available

Supplier.
Kop-Coat Protection Products
5137 Southwest Avenue
St. Louis, MO 63110
1-314-772-2200

Emergency telephone number.
Chemtrec: +1-800-424-9300 USA
Chemtrec: +1-703-527-3887 ex-USA

2. Hazards Identification

GHS Classification in accordance with 29 CFR 1910.1200
Carc. 2, Skin Sens. 1

GHS Pictograms

Signal Word
Warning

Unknown Acute Toxicity
< 0.1% of the mixture consists of ingredient(s) of unknown acute toxicity

HAZARD STATEMENTS
May cause an allergic skin reaction.
Suspected of causing cancer.

Precautionary Statements - Prevention.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.

Precautionary Statements - Storage.
Store locked up.

Precautionary Statements - Disposal.

Dispose of contents in accordance with local/regional/national/international regulations.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %
2-Octyl-3(2H)-isothiazolone	26530-20-1	0.1-1.0
Chlorothalonil	1897-45-6	0.1-1.0
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	<0.1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid Measures

Description of first-aid measures.

General advice.

Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.

Inhalation.

Move to fresh air. Call a physician if irritation develops or persists.

Skin contact.

Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if symptoms occur.

Eye contact.

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Ingestion.

If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. If large quantities of this material are swallowed, call a physician immediately. Gently wipe or rinse the inside of the mouth with water.

Symptoms.

See Section 2 and Section 11, Toxicological effects for description of potential symptoms.

Notes to physician.

Treat symptomatically. There is no specific antidote for effects from overexposure to this material.

5. Fire-fighting Measures

Extinguishing media.

Suitable extinguishing media.

Use:. Water spray. Carbon dioxide (CO_2). Foam. Dry chemical. Cool containers with flooding quantities of water until well after fire is out.

Extinguishing media which shall not be used for safety reasons.

None known based on information supplied.

Special hazards arising from the substance or mixture.

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Advice for firefighters.

Use personal protective equipment.As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures.

Personal precautions.

Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation, especially in confined areas. Keep people away from and upwind of spill/leak. Stop leak if you can do it without risk. Thoroughly decontaminate all protective equipment after use. Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill.

Advice for emergency responders.

Use personal protection recommended in Section 8.

Environmental precautions.

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. See Section 12 for additional Ecological information.

Methods and materials for containment and cleaning up.

Methods for Containment.

Dike far ahead of spill; use dry sand to contain the flow of material. Prevent further leakage or spillage if safe to do so. Cover liquid spill with sand, earth or other noncombustible absorbent material. Use personal protective equipment.

Methods for cleaning up.

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Clean contaminated surface thoroughly. Keep in suitable and closed containers for disposal. Ventilate the area. Use personal protective equipment as required.

Reference to other sections.

See section 8 for more information.

7. Handling and Storage

Conditions for safe storage, including any incompatibilities.

Advice on safe handling.

Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor. Wash hands before breaks and immediately after handling the product. No smoking.

Hygiene measures.

Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Keep working clothes separately. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

Storage Conditions.

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Store in accordance with local regulations. Keep from freezing. Keep away from food, drink and animal feedingstuffs.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Contains no substances with occupational exposure limit values.				

TLV = Threshold Limit Value TWA = Time Weighted Average PEL = Permissible Exposure Limit STEL = Short-Term Exposure Limit N.E. = Not Established

Engineering Measures.

Ensure adequate ventilation, especially in confined areas. None under normal use conditions. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Personal protective equipment.

Eye/Face Protection.

Safety glasses with side-shields.

Skin and body protection.

Wear protective gloves/ protective clothing. Gloves must be rinsed thoroughly after use. Gloves must be inspected prior to use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove and wash contaminated clothing before re-use.

Respiratory protection.

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection. In case of inadequate ventilation wear respiratory protection. If exposure limits are exceeded or irritation is experienced, respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

9. Physical and chemical properties.

Information on basic physical and chemical properties.

Physical state	Liquid
Appearance	Creamy
Color	White
Odor	Mild
Odor Threshold	No Information
pH	5.1
Melting/freezing point., °C (°F)	No Information
Flash Point., °C (°F)	No Information
Boiling point/boiling range., °C (°F)	100 - 1,461 (212 - 2661.8)
Evaporation rate	No Information Available
Explosive properties.	No Information
Vapor pressure.	No Information
Vapor density.	No Information
Specific Gravity. (g/cm^3)	0.995
Water solubility.	No Information
Partition coefficient.	No Information
Autoignition temperature.,°C	No Information
Decomposition Temperature °C.	No Information
Viscosity, kinematic.	No Information

Other information.

Volatile organic compounds (VOC) content.	Not determined
Density, lb/gal	8.283

10. Stability and Reactivity

Reactivity.

No dangerous reaction known under conditions of normal use.

Chemical stability.
Stable under recommended storage conditions.

Possibility of hazardous reactions.
None under normal processing.

Conditions to Avoid.
Do not freeze.

Incompatible Materials.
No materials to be especially mentioned.

Hazardous Decomposition Products.
Thermal decomposition can lead to release of irritating gases and vapours.

11. Toxicological Information

Information on toxicological effects.

Acute toxicity.

Product Information
No Information

Component Information.

CAS-No.	Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
26530-20-1	2-Octyl-3(2H)-isothiazolone	550 mg/kg (rat)	690 mg/kg (rabbit)	N.I.
1897-45-6	Chlorothalonil	> 10,000 mg/kg (rat)	> 10,000 mg/kr (rabbit)	0.1 mg/L (rat) 4-hr (Dust)
26172-55-4	5-Chloro-2-methyl-4-isothiazolin-3-one	105 mg/kg (rat)	201 mg/kg (rat)	0.33 mg/L (rat) 4-hr (Dust)

N.I. = No Information

Skin corrosion/irritation.
No Information

Eye damage/irritation.
No Information

Respiratory or skin sensitization.
May cause allergic skin reaction.

Ingestion.
No Information

Germ cell mutagenicity.
No Information

Carcinogenicity.
No Information

CAS-No.	Chemical Name	IARC	NTP	OSHA
1897-45-6	Chlorothalonil	IARC Group 2B	-	-

Reproductive toxicity.
No Information

Specific target organ systemic toxicity (single exposure).
No Information

Specific target organ systemic toxicity (repeated exposure).
No Information

Aspiration hazard.
No Information

Primary Route(s) of Entry
No Information

12. Ecological Information

Toxicity.

0.68% of the mixture consists of ingredient(s) of unknown aquatic toxicity

Ecotoxicity effects.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Chlorothalonil 1897-45-6	EC50 72 h Desmodesmus subspicatus 0.57 mg/L, EC50 72 h Pseudokirchneriella subcapitata 0.0068 mg/L	LC50 96 h Oncorhynchus mykiss 0.012 mg/L, LC50 96 h Oncorhynchus mykiss 0.0076 mg/L, LC50 96 h Lepomis macrochirus 0.0221 - 0.032 mg/L, LC50 96 h Lepomis macrochirus 0.045 - 0.057 mg/L	EC50 48 h Daphnia magna 0.0342 - 0.143 mg/L
5-Chloro-2-methyl-4-isothiazolin-3-one 26172-55-4	EC50 72 h Pseudokirchneriella subcapitata 0.11 - 0.16 mg/L, EC50 96 h Pseudokirchneriella subcapitata 0.03 - 0.13 mg/L	LC50 96 h Oncorhynchus mykiss 1.6 mg/L	EC50 48 h Daphnia magna 4.71 mg/L, EC50 48 h Daphnia magna 0.12 - 0.3 mg/L, EC50 48 h Daphnia magna 0.71 - 0.99 mg/L

Persistence and degradability.

No data are available on the product itself.

Bioaccumulative potential.

No data are available on the product itself.

CAS-No.	Chemical Name	log POW
1897-45-6	Chlorothalonil	2.9
26172-55-4	5-Chloro-2-methyl-4-isothiazolin-3-one	-0.71 - 0.75

Mobility in soil.

No information

Other adverse effects.

No information

13. Disposal Considerations

Waste Disposal Guidance.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Shipping Name: Not regulated.

IMDG -

Proper Shipping Name: UN3082, Environmentally hazardous substance, liquid, n.o.s. (isothiazolinone, chlorothalonil), 9, PG III, Marine Pollutant

Additional Information: Inner packagings 5 L (liquid) or 5 kg (solids) or less: Not regulated (per IMDG Code 2.10.2.7) (EHS liquid/sold exception)

IATA

Proper Shipping Name: UN3082, Environmentally hazardous substance, liquid, n.o.s. (isothiazolinone, chlorothalonil), 9, PG III, Marine Pollutant

Additional Information: Inner packagings 5 L (liquid) or 5 kg (solids) or less: Not restricted (per Special Provision A197) (EHS liquid/sold exception)

15. Regulatory Information

International Inventories:

TSCA	Complies
DSL	-
DSL/NDSL	-
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECI	-
PICCS	-
AICS	-
NZIoC	-

TCSI

TSCA	United States Toxic Substances Control Act Section 8(b) Inventory.
DSL	Canadian Domestic Substances List.
DSL/NDSL	Canadian Domestic Substances List/Canadian Non-Domestic Substances List
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances.
ENCS	Japan Existing and New Chemical Substances.
IECSC	China Inventory of Existing Chemical Substances.
KECL	Korean Existing and Evaluated Chemical Substances.
PICCS	Philippines Inventory of Chemicals and Chemical Substances.
AICS	Australian Inventory of Chemical Substances.
NZIoC	New Zealand Inventory of Chemicals.
TCSI	Taiwan Chemical Substance Inventory

U.S. Federal Regulations:

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372: .

Chemical Name	CAS-No.	Weight Percent
Chlorothalonil	1897-45-6	0.1-1.0

TOXIC SUBSTANCES CONTROL ACT 12(b):

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:.

This product does not contain any chemicals that are subject to the reporting requirements of TSCA 12(b).

CALIFORNIA PROPOSITION 65 CARCINOGENS

WARNING

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:.

Chemical Name	CAS-No.
Chlorothalonil	1897-45-6
Formaldehyde	50-00-0

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

WARNING

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.
METHANOL	67-56-1

16. Other Information

Revision Date: 2/27/2020 **Supersedes Date:** New SDS

Reason for revision: No Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	2*	**Flammability:**	1	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA Ratings:

Health:	2	**Flammability:**	1	**Instability:**	0	**Physical & Chemical:**	N.I.

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

KOP-COAT PROTECTION PRODUCTS

Safety Data Sheet

1. Identification

Product Information. 18175

Product Name: ANTIFOAM AGENT 30

Recommended Use. Defoamer

Uses advised against. No information available

Supplier.
Kop-Coat, Inc.
5137 Southwest Avenue
St. Louis, MO 63110
1-314-772-2200

Emergency telephone number.
Chemtrec: +1-800-424-9300 USA
Chemtrec: +1-703-527-3887 ex-USA

2. Hazards Identification

GHS Classification in accordance with 29 CFR 1910.1200
This product is not classified as hazardous according to GHS classification criteria.

GHS Pictograms

None required.

Signal Word
Not required.

Unknown Acute Toxicity
< 0.1% of the mixture consists of ingredient(s) of unknown acute toxicity

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %

The product contains no substances known to be hazardous to health in concentrations which need to be taken into account.

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid Measures

Description of first-aid measures.

General advice.
Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.

Inhalation.
Move to fresh air. Call a physician if irritation develops or persists.

Skin contact.
Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if symptoms occur.

Eye contact.
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Ingestion.

If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. If large quantities of this material are swallowed, call a physician immediately. Gently wipe or rinse the inside of the mouth with water.

Symptoms.

See Section 2 and Section 11, Toxicological effects for description of potential symptoms.

Notes to physician.

Treat symptomatically. There is no specific antidote for effects from overexposure to this material.

5. Fire-fighting Measures

Extinguishing media.

Suitable extinguishing media.

Use:. Water spray. Carbon dioxide (CO_2). Foam. Dry chemical. Cool containers with flooding quantities of water until well after fire is out.

Extinguishing media which shall not be used for safety reasons.

None known based on information supplied.

Special hazards arising from the substance or mixture.

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Advice for firefighters.

Use personal protective equipment.As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures.

Personal precautions.

Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation, especially in confined areas. Keep people away from and upwind of spill/leak. Stop leak if you can do it without risk. Thoroughly decontaminate all protective equipment after use. Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill.

Advice for emergency responders.

Use personal protection recommended in Section 8.

Environmental precautions.

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. See Section 12 for additional Ecological information.

Methods and materials for containment and cleaning up.

Methods for Containment.

Dike far ahead of spill; use dry sand to contain the flow of material. Prevent further leakage or spillage if safe to do so. Cover liquid spill with sand, earth or other noncombustible absorbent material. Use personal protective equipment.

Methods for cleaning up.

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Clean contaminated surface thoroughly. Keep in suitable and closed containers for disposal. Ventilate the area. Use personal protective equipment as required.

Reference to other sections.

See section 8 for more information.

7. Handling and Storage

Conditions for safe storage, including any incompatibilities.

Advice on safe handling.

Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor. Wash hands before breaks and immediately after handling the product. No smoking.

Hygiene measures.

Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Keep working clothes separately. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

Storage Conditions.

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Store in accordance with local regulations. Keep away from food, drink and animal feedingstuffs.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Contains no substances with occupational exposure limit values.				

TLV = Threshold Limit Value TWA = Time Weighted Average PEL = Permissible Exposure Limit STEL = Short-Term Exposure Limit N.E. = Not Established

Engineering Measures.

Ensure adequate ventilation, especially in confined areas. None under normal use conditions. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Personal protective equipment.

Eye/Face Protection.

Safety glasses with side-shields.

Skin and body protection.

Wear protective gloves/ protective clothing. Gloves must be rinsed thoroughly after use. Gloves must be inspected prior to use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove and wash contaminated clothing before re-use.

Respiratory protection.

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection. In case of inadequate ventilation wear respiratory protection. If exposure limits are exceeded or irritation is experienced, respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

9. Physical and chemical properties.

Information on basic physical and chemical properties.

Physical state	Liquid
Appearance	No Information
Color	White
Odor	Faint
Odor Threshold	No Information
pH	No Information
Melting/freezing point., °C (°F)	No Information
Flash Point., °C (°F)	>93 (>199.40)
Boiling point/boiling range., °C (°F)	100 - 118 (212 - 244.4)
Evaporation rate	No Information Available
Explosive properties.	No Information
Vapor pressure.	No Information
Vapor density.	Heavier then air
Specific Gravity. (g/cm^3)	1.007
Water solubility.	Dispersible
Partition coefficient.	No Information
Autoignition temperature.,°C	No Information
Decomposition Temperature °C.	No Information
Viscosity, kinematic.	No Information

Other information.

Volatile organic compounds (VOC) content.	No Information
Density, lb/gal	8.400

10. Stability and Reactivity

Reactivity.
No dangerous reaction known under conditions of normal use.

Chemical stability.
Stable under recommended storage conditions.

Possibility of hazardous reactions.
None under normal processing.

Conditions to Avoid.
None known.

Incompatible Materials.
No materials to be especially mentioned.

Hazardous Decomposition Products.
Thermal decomposition can lead to release of irritating gases and vapours.

11. Toxicological Information

Information on toxicological effects.

Acute toxicity.

Product Information
No Information

CAS-No.	Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation

No information available

N.I. = No Information

Skin corrosion/irritation.
No Information

Eye damage/irritation.
No Information

Respiratory or skin sensitization.
No Information

Ingestion.
No Information

Germ cell mutagenicity.
No Information

Carcinogenicity.
No Information

Reproductive toxicity.
No Information

Specific target organ systemic toxicity (single exposure).
No Information

Specific target organ systemic toxicity (repeated exposure).
No Information

Aspiration hazard.
No Information

Primary Route(s) of Entry

No Information

12. Ecological Information

Toxicity.

0.00% of the mixture consists of ingredient(s) of unknown aquatic toxicity

Ecotoxicity effects.

Persistence and degradability.

No data are available on the product itself.

Bioaccumulative potential.

No data are available on the product itself.

Mobility in soil.

No information

Other adverse effects.

No information

13. Disposal Considerations

Waste Disposal Guidance.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Shipping Name: Not regulated

IMDG

Proper Shipping Name: Not regulated

IATA

Proper Shipping Name: Not regulated

15. Regulatory Information

International Inventories:

TSCA	Complies
DSL	Complies
DSL/NDSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECI	-
PICCS	-
AICS	-
NZIoC	-
TCSI	

TSCA	United States Toxic Substances Control Act Section 8(b) Inventory.
DSL	Canadian Domestic Substances List.
DSL/NDSL	Canadian Domestic Substances List/Canadian Non-Domestic Substances List
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances.
ENCS	Japan Existing and New Chemical Substances.
IECSC	China Inventory of Existing Chemical Substances.
KECL	Korean Existing and Evaluated Chemical Substances.
PICCS	Philippines Inventory of Chemicals and Chemical Substances.
AICS	Australian Inventory of Chemical Substances.
NZIoC	New Zealand Inventory of Chemicals.
TCSI	Taiwan Chemical Substance Inventory

U.S. Federal Regulations:

SARA SECTION 313:

This product does not contain any chemicals that are subject to the reporting requirements of SARA 313.

TOXIC SUBSTANCES CONTROL ACT 12(b):

This product does not contain any chemicals that are subject to the reporting requirements of TSCA 12(b).

CALIFORNIA PROPOSITION 65 CARCINOGENS

No Proposition 65 Carcinogens exist in this product.

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

No Proposition 65 Reproductive Toxins exist in this product.

16. Other Information

Revision Date: 3/31/2021 **Supersedes Date:** New SDS

Reason for revision: No Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	0	**Flammability:**	0	**Physical Hazard:**	N.I.	**Personal Protection:**	N.I.

NFPA Ratings:

Health:	0	**Flammability:**	0	**Instability:**	N.I.	**Physical & Chemical:**	N.I.

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

SAFETY DATA SHEET

KOP-COAT

Revision Date 29-Oct-2015
Version 1

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name WORKHORSE® II
Product code 19570

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Wood preservative
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

Kop-Coat, Inc.
Protection Products
5137 Southwest Avenue
St. Louis, MO 63110
(314) 772-2200

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 2

2.2 Label elements

Signal Word
Danger

Hazard Statements
Causes severe skin burns and eye damage
Suspected of damaging fertility or the unborn child

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dusts or mists
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information
Not Applicable

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance
Not applicable
Mixture

Chemical Name	CAS-No	Weight %
Alkyl amine	Proprietary	5 - 10
Organic acid	Proprietary	5 - 10
Alkyl amine	Proprietary	5 - 10
Trialkyl nitrogen oxide compound	Proprietary	1 - 5
Trialkyl nitrogen oxide compound	Proprietary	1 - 5
Trialkyl nitrogen oxide compound	Proprietary	1 - 5
Nonylphenol ethoxylate	127087-87-0	1 - 5
Polypropylene glycol	25322-69-4	1 - 5
Propiconazole	60207-90-1	1 - 5
3-iodo-2-propynyl butyl carbamate	55406-53-6	1 - 5
Diiodomethyl-p-tolylsulfone	20018-09-1	< 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and

continue flushing for at least 15 minutes. Call a physician or poison control center immediately.

Skin contact Wash contaminated clothing before reuse. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately. Remove contaminated clothing and shoes.

Inhalation Move victim to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Keep victim warm and quiet.

Ingestion Gently wipe or rinse the inside of the mouth with water. Never give fluids if the victim is unconscious or having convulsions. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician There is no specific antidote for effects from overexposure to this material. Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, fog, Carbon dioxide (CO_2), foam or dry chemical. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire.

Unsuitable Extinguishing Media None known based on information supplied.

5.2 Special hazards arising from the substance or mixture

Special Hazard
Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Combustion Products Possible formation of carbon oxides, nitrogen oxides, and hazardous organic compounds.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

5.3 Advice for firefighters

Evacuate personnel to safe areas. Thoroughly decontaminate all protective equipment after use. Use water spray to cool fire-exposed containers. Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Move containers from fire area if you can do it without risk. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing. Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill. Stop leak if you can do it without risk. Keep people away from and upwind of spill/leak. Wear protective gloves/clothing and eye/face protection. Thoroughly decontaminate all protective equipment after use. .

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up Clean contaminated surface thoroughly. Take up with sand, earth or other noncombustible absorbent material.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor.

Hygiene measures Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs. Keep from freezing.

Materials to Avoid No materials to be especially mentioned.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Organic acid	TWA: 5 mg/m^3 inhalable fraction and vapor	-	TWA: 5 mg/m^3 Adverse reproductive effect	TWA: 5 mg/m^3		TWA: 5 mg/m^3

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Apply technical measures to comply with the occupational exposure limits.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and body protection Wear impervious gloves and/or clothing if needed to prevent contact with the material. Neoprene gloves. Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Long sleeved clothing. Chemical resistant apron. Protective shoes or boots. Remove and wash contaminated clothing before re-use.

Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
Hygiene measures	See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Amber
Odor	amine-like
Odor Threshold	No information available

Property	Values	Remarks • Methods
pH	7.0	10% (as aqueous solution)
Melting/freezing point		No information available
Boiling point/boiling range		No information available
Flash Point	> 94 °C / > 201 °F	
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	0.0041 lb/gal
Density	7.95 lb/gal

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

None known based on information supplied.

10.5 Incompatible Materials

No materials to be especially mentioned.

10.6 Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 2,313.00 mg/kg
Dermal LD50 24,753.00 mg/kg
LC50 (Dust/Mist) 25.80 mg/l

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Alkyl amine	1520 mg/kg (rat)	-	-
Organic acid	2043 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Alkyl amine	1220 mg/kg (Rat)	-	-
Nonylphenol ethoxylate 127087-87-0	1310 mg/kg (Rat)	-	-
Propiconazole 60207-90-1	-	-	= 1264 mg/m³ (Rat) 4 h
3-iodo-2-propynyl butyl carbamate 55406-53-6	1100 mg/kg (Rat)	-	-
Diiodomethyl-p-tolylsulfone 20018-09-1	> 5000 mg/kg (rat)	> 20,000 mg/kg (rabbit)	0.96 mg/L (rat) 4-hr, aerosol

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• No information available
Component Information
• No information available

Eye damage/irritation
Product Information
• No information available
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• No information available
Component Information
• No information available

Germ cell mutagenicity
Product Information
• No information available

Component Information
• No information available

Carcinogenicity
Product Information
• No information available
Component Information
• No information available

Reproductive toxicity
Product Information
• No information available
Component Information
• This organic acid has been found to cause developmental toxicity in animal studies. The American Conference of Governmental Industrial Hygienist's (ACGIH) airborne Threshold Limit Value (TLV)-Time Weighted Average (TWA) of 5 mg/m^3 (inhalable fraction and vapor) for this organic acid is set to minimize the potential risks of developmental toxicity in exposed workers. Airborne and urine levels of this organic acid were evaluated in occupational workers in four Finnish sawmills using a wood preservative that contained 25% of the organic acid. Breathing zone air samples were all well below the TLV, with the highest level of 1.3 mg/m^3 reported for a worker adjacent to the dip tank. Urine levels correlated with the dose associated with the airborne levels, indicating dermal absorption is not a significant route of exposure to this organic acid.

STOT - single exposure
No information available

STOT - repeated exposure
No information available

Other adverse effects
Product Information
• No information available
Component Information
• No information available

Aspiration hazard
Product Information
• No information available
Component Information
• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

< 1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Organic acid	EC50: 72 h Desmodesmus subspicatus 61 mg/L EC50: 96 h Desmodesmus subspicatus 41 mg/L	LC50: 96 h Pimephales promelas 70 mg/L	EC50: 48 h Daphnia magna 85.4 mg/L
Alkyl amine	-	LC50: 96 h Brachydanio rerio 0.71 - 1 mg/L static	-
Nonylphenol ethoxylate 127087-87-0	-	LC50: 96-hr Pimephales promelas (fathead minnow)1.2-9.3 mg/L	-
Propiconazole 60207-90-1	-	LC50: 96-hr Trout 5.3 mg/L	-
3-iodo-2-propynyl butyl carbamate 55406-53-6	-	LC50: 96 h Lepomis macrochirus 0.14 - 0.32 mg/L flow-through LC50:	-

		96 h Oncorhynchus mykiss 0.049 - 0.079 mg/L flow-through LC50: 96 h Oncorhynchus mykiss 0.05 - 0.089 mg/L LC50: 96 h Pimephales promelas 0.18 - 0.23 mg/L flow-through	

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

Chemical Name	log Pow
Organic acid	2.7
Alkyl amine	5.47

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1 Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transport Information

DOT

Proper shipping name UN1760, Corrosive liquids, n.o.s. (alkyl amines), 8, PGII

MEX no data available

IMDG

Proper shipping name UN1760, Corrosive liquid, n.o.s. (alkyl amines), 8, PGII
Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
Description (alkyl amines)

IATA

Proper shipping name UN1760, Corrosive liquid, n.o.s. (alkyl amines), 8, PGII

15. Regulatory information

15.1 International Inventories

TSCA Complies
DSL -
EINECS/ELINCS -
ENCS -
IECSC -
KECL -
PICCS -

AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	SARA 313 - Threshold Values %
Propiconazole 60207-90-1	1.0
3-iodo-2-propynyl butyl carbamate 55406-53-6	1.0

15.3 Pesticide Information

U.S. EPA Pesticide Information

EPA Pesticide Registration Number 60061-126
EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label
DANGER. CORROSIVE. Causes skin burns. Causes irreversible eye damage. Harmful if absorbed through skin. Harmful if inhaled. Harmful if swallowed.

15.4 U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
1,4-DIOXANE - 123-91-1	Carcinogen

16. Other information

NFPA	**Health Hazard** 3	**Flammability** 1	**Instability** 0	**Physical and chemical hazards** -
HMIS	**Health Hazard** 3*	**Flammability** 1	**Physical Hazard** 0	**Personal protection** X

Legend:
ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)

NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Revision Date 29-Oct-2015
Revision Note
No information available
Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

Tri-ACT® 1805

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Tri-ACT® 1805
Other means of identification	:	Not applicable.
Recommended use	:	CORROSION INHIBITOR
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/21/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 3
Skin corrosion	:	Category 1
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Flammable liquid and vapour.
Harmful if swallowed.
Toxic in contact with skin.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid

breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
Storage:
Store in a well-ventilated place.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Monoethanolamine	141-43-5	30 - 60
Methoxypropylamine	5332-73-0	30 - 60
Cyclohexylamine	108-91-8	10 - 30

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Foam

		Carbon dioxide Dry powder Other extinguishing agent suitable for Class B fires For large fires, use water spray or fog, thoroughly drenching the burning material.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Hazardous combustion products	:	Carbon oxides nitrogen oxides (NOx)
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Do not store near acids. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: HDPE (high density polyethylene), Stainless Steel 304, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
The following compatibility data is suggested based on similar product data and/or industry experience:

Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Monoethanolamine	141-43-5	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		TWA	3 ppm 8 mg/m3	NIOSH REL
		STEL	6 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 6 mg/m3	OSHA Z1
Methoxypropylamine	5332-73-0	TWA	5 ppm	AIHA WEEL
		STEL	15 ppm	AIHA WEEL
Cyclohexylamine	108-91-8	TWA	10 ppm	ACGIH
		TWA	10 ppm 40 mg/m3	NIOSH REL

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Impervious gloves, resistant to chemicals.
butyl-rubber
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne mist and vapor.
Where concentrations in air may exceed the limits given in this section or when significant mists, vapors, aerosols are generated, an approved air purifying respirator equipped with suitable filter cartridges is recommended.
Recommended Filter type:
Ammonia / amine cartridge.
In event of emergency or planned entry into unknown concentrations, a positive

		pressure, full-facepiece SCBA or supplied-air respirator should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	Light yellow
Odour	:	odourless
Flash point	:	45 °C, Method: ASTM D 93, Pensky-Martens closed cup
pH	:	13.0 - 14.0,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -51 °C, ASTM D-1177
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	5.6 hPa, (20.0 °C), ASTM D-5191,
Relative vapour density	:	no data available
Relative density	:	0.95 - 0.98, (25 °C), ASTM D-1298
Density	:	0.95 - 0.98 g/cm3 , 7.9 - 8.2 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	9 mPa.s (25 °C), Method: ASTM D 2983
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	79.9 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals. Strong oxidizing agents Strong acids
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx)

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Toxic in contact with skin. Causes severe skin burns. May cause allergic skin reaction.
Ingestion	:	Harmful if swallowed. Causes digestive tract burns.
Inhalation	:	May cause respiratory tract irritation. Harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure	:	Suspected of damaging fertility or the unborn child.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Irritation, Corrosion, Allergic reactions
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 659 mg/kg Test substance: Product
Acute inhalation toxicity	:	Acute toxicity estimate: 5.33 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	rabbit: < 2,000 mg/kg Test substance: Product Acute toxicity estimate: 989.03 mg/kg
Skin corrosion/irritation	:	Result: 8.0 Method: Draize Test Test substance: Product
Serious eye damage/eye irritation	:	Result: 110.0 Method: Draize Test Test substance: Product
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	Prolonged exposure to cyclohexylamine in the diet has produced reproductive effects in rats. The relevance to humans is unknown.
Germ cell mutagenicity	:	A mutagenicity test battery on cyclohexylamine was inconclusive. In a short-term test, cyclohexylamine caused mutation in human white blood cells. A bacterial mutagenicity (Ames) bioassay was negative for methoxypropylamine.
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Harmful to aquatic life with long lasting effects.

Product

Toxicity to fish	:	LC50 Fathead Minnow: 97 mg/l Exposure time: 96 hrs Test substance: Product (calculated) LC50 Rainbow Trout: 100 mg/l Exposure time: 96 hrs Test substance: Product (calculated) LC50 Inland Silverside: 732.15 mg/l

Exposure time: 96 hrs
Test substance: Product (calculated)

NOEC Fathead Minnow: 75 mg/l
Exposure time: 96 hrs
Test substance: Product (calculated)

NOEC Rainbow Trout: 75 mg/l
Exposure time: 96 hrs
Test substance: Product (calculated)

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna: 163 mg/l
Exposure time: 48 hrs
Test substance: Product (calculated)

LC50 Mysid Shrimp (Mysidopsis bahia): 308 mg/l
Exposure time: 96 hrs
Test substance: Product (calculated)

EC50 Daphnia magna: 125 - 200 mg/l
Exposure time: 48 hrs
Test substance: Product (calculated)

NOEC Daphnia magna: 125 mg/l
Exposure time: 48 hrs
Test substance: Product (calculated)

NOEC Mysid Shrimp (Mysidopsis bahia): 125 mg/l
Exposure time: 96 hrs
Test substance: Product (calculated)

Components

Toxicity to algae : Methoxypropylamine
EC50 : 31 mg/l
Exposure time: 72 h

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Monoethanolamine
NOEC: 0.85 mg/l
Exposure time: 21 d

Persistence and degradability

The organic portion of this preparation is expected to be readily biodegradable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	30 - 50%
Soil	:	50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste:	:	D001, D002
Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Technical name(s)	:	METHOXYPROPYLAMINE, CYCLOHEXYLAMINE
UN/ID No.	:	UN 2734
Transport hazard class(es)	:	8, 3
Packing group	:	II

Air transport (IATA)

Proper shipping name	:	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Technical name(s)	:	METHOXYPROPYLAMINE, CYCLOHEXYLAMINE
UN/ID No.	:	UN 2734
Transport hazard class(es)	:	8, 3
Packing group	:	II

Sea transport (IMDG/IMO)

Proper shipping name	:	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Technical name(s)	:	METHOXYPROPYLAMINE, CYCLOHEXYLAMINE
UN/ID No.	:	UN 2734
Transport hazard class(es)	:	8, 3
Packing group	:	II

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Cyclohexylamine	108-91-8	10000	50251

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Cyclohexylamine 108-91-8

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Australia. Industrial Chemical (Notification and Assessment) Act
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

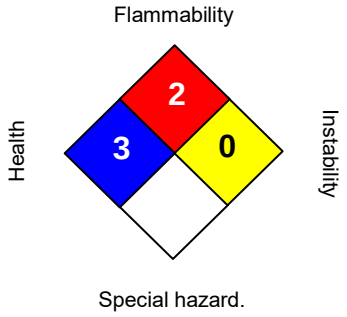
Korea. Korean Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China Inventory of Existing Chemical Substances
On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	2
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	10/21/2019
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.nalco.com and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NexGuard™ 22310

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NexGuard™ 22310
Other means of identification	:	Not applicable.
Recommended use	:	BOILER WATER INTERNAL TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	05/18/2023

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

No hazardous ingredients

Section: 4. FIRST AID MEASURES

In case of eye contact	:	Rinse with plenty of water. Get medical attention if symptoms occur.
In case of skin contact	:	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.

Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Wash hands after handling.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers. Protect product from freezing.

		Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Stainless Steel 304, EPDM, Buna-N, HDPE (high density polyethylene), Polyurethane, Neoprene, Polypropylene, Polyethylene, Stainless Steel 316L, 100% phenolic resin liner, Chlorosulfonated polyethylene rubber, Fluoroelastomer, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Mild steel, Epoxy phenolic resin

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection	:	Safety glasses
Hand protection	:	Wear protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Wash hands before breaks and immediately after handling the product.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow-orange fluorescent
Odour	:	ammoniacal
Flash point	:	does not flash
pH	:	8.5 - 12.5, (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -6 °C, ASTM D-1177
Initial boiling point and boiling range	:	no data available

Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	similar to water
Relative vapour density	:	no data available
Relative density	:	1.19, (25 °C), ASTM D-1298
Density	:	9.9 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Freezing temperatures. None known.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): 7,070 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Inland Silverside: > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Inland Silverside: 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Fathead Minnow: 2,935 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Fathead Minnow: 2,861 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Fathead Minnow: 2,160 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 1,650 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1,473 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 778 mg/l
Exposure time: 48 hrs
Test substance: Product

Persistence and degradability

The organic portion of this preparation is expected to be poorly biodegradable.

Total Organic Carbon (TOC) : 87,000 mg/l

Chemical Oxygen Demand (COD): 240,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	6,200 mg/l	Product

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	10 - 30%
Soil	:	50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)

This product and/or component(s) are exempt or excluded from the Korean Existing Chemicals List (KECL) under the Toxic Chemicals Control Law (TCCL).

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

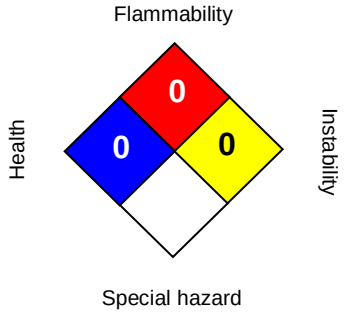
China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	05/18/2023
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.ecolab.com/sds and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

CONQUOR™ CNQR3475

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	CONQUOR™ CNQR3475
Other means of identification	:	Not applicable.
Recommended use	:	BOILER WATER TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	05/18/2023

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage	:	Category 1
Skin sensitization	:	Category 1
Germ cell mutagenicity	:	Category 2
Carcinogenicity	:	Category 2

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of causing genetic defects.
Suspected of causing cancer.

Precautionary Statements :

Prevention:
Obtain special instructions before use. Avoid breathing mist or vapours. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. If skin irritation or rash occurs: Get medical advice/ attention. Wash contaminated clothing before reuse.

Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Diethylhydroxylamine	3710-84-7	5 - 10
Hydroquinone	123-31-9	1 - 5

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx)

Special protective equipment : Use personal protective equipment.

for firefighters

Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: HDPE (high density polyethylene), Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Copper, Carbon steel

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Diethylhydroxylamine	3710-84-7	TWA	2 ppm	ACGIH
Hydroquinone	123-31-9	TWA	1 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA P0

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below

occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. No personal respiratory protective equipment normally required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	brown
Odour	:	amine-like
Flash point	:	does not flash
pH	:	7.75 - 8.95,(100 %), (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -3.9 °C
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	similar to water

Relative vapour density	:	no data available
Relative density	:	0.995 - 1.012, (25 °C),
Density	:	7.96 - 8.37 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	8.5 %, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx)

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	May cause allergic skin reaction.
Ingestion	:	Health injuries are not known or expected under normal use.

Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Suspected of causing genetic defects. Suspected of causing cancer.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Irritation, Allergic reactions
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 135.47 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	Toxic to aquatic life with long lasting effects.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): 4.6 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Daphnia magna (Water flea): 15.4 mg/l Exposure time: 48 hrs

Test substance: Product

Toxicity to fish (Chronic toxicity) : LOEC: 1.25 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

NOEC: 0.63 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : LOEC: 20.0 mg/l
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 10.0 mg/l
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

Components

Toxicity to algae : Diethylhydroxylamine
EC50 Pseudokirchneriella subcapitata (algae): > 101 mg/l
Exposure time: 72 h

Hydroquinone
EC50 Pseudokirchneriella subcapitata (algae): 0.041 mg/l
Exposure time: 72 h

Persistence and degradability

The organic portion of this preparation is expected to be readily biodegradable.

Chemical Oxygen Demand (COD): 300,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	59,800 mg/l	Product

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air : <5%
Water : 30 - 50%

Soil : 50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Disposal methods : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name(s) : Hydroquinone
UN/ID No. : UN 3082
Transport hazard class(es) : 9
Packing group : III
Reportable Quantity (per package) : 2,800 lbs
RQ Component : HYDROQUINONE

Air transport (IATA)

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name(s) : Hydroquinone
UN/ID No. : UN 3082
Transport hazard class(es) : 9
Packing group : III
Reportable Quantity (per package) : 2,800 lbs

RQ Component : HYDROQUINONE

Sea transport (IMDG/IMO)

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name(s) : Hydroquinone
UN/ID No. : UN 3082
Transport hazard class(es) : 9
Packing group : III

*Marine pollutant : Hydroquinone

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydroquinone	123-31-9	100	2820

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydroquinone	123-31-9	100	2820

SARA 311/312 Hazards : Respiratory or skin sensitisation
Germ cell mutagenicity
Carcinogenicity
Serious eye damage or eye irritation

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Hydroquinone 123-31-9

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Hydroquinone 123-31-9 1 - 5 %

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
On or in compliance with the active portion of the TSCA inventory

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)
All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

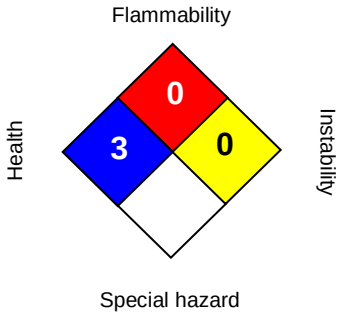
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 05/18/2023
Version Number : 2.1
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.ecolab.com/sds and request access.

Appendix C – Emission Factor References

- Boiler Source Test Result Summaries
- Ash Analytical
- SDS and Material Composition Section of Product Data Sheet for Steel Plate

6.0 TEST RESULTS SUMMARY

Performance Testing Result Summary				
Parameter	Run 1	Run 2	Run 3	Average
Date	1/14/16	1/14/16	1/14/16	
Time	1013-1218	1240-1444	1500-1708	
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	8.10	6.61	5.86	6.85
Carbon Dioxide (%vol)	11.81	13.47	14.35	13.21
Stack Temperature (°F)	345	340	333	339
Moisture Content (%)	18.75	10.78	21.60	17.04
Volumetric Flow Rate (dscfm)	41,403	45,109	40,308	42,273
Unit Firing Rate (MMBtu-hr)[1]	159.06	193.47	181.95	178.16
Filterable Particulate Matter (PM) Concentrations and Emission Rates – EPA Method 5				
gr/dscf	0.000436	0.000359	0.000588	0.000461
lb/hr	0.155	0.139	0.203	0.166
lb/MMBtu Heat Input	0.000973	0.000717	0.00112	0.000936
Carbon Monoxide (CO) Concentrations and Emission Rates – EPA Method 10				
ppmvd	73.9	57.0	52.1	61.0
ppmvd @ 3% O_2	103.3	71.4	62.0	78.9
lb/hr	13.34	11.22	9.16	11.24
lb/MMBtu Heat Input	0.084	0.058	0.050	0.064
Hydrochloric Acid (HCl) Concentrations and Emission Rates – EPA Method 26A				
ppmvd	5.00E-03[2]	3.19E-03	5.94E-03[2]	4.71E-03[2]
lb/hr	1.17E-03[2]	8.17E-04	1.36E-03[2]	1.12E-03[2]
lb/MMBtu Heat Input	7.38E-06[2]	4.22E-06	7.47E-06[2]	6.36E-06[2]
Mercury (Hg) Concentrations and Emission Rates – EPA Method 30B				
µg/dscm	1.59	1.34	1.14	1.35
lb/hr	2.46E-04	2.26E-04	1.72E-04	2.15E-04
lb/MMBtu Heat Input	1.55E-06	1.17E-06	9.43E-07	1.22E-06

[1]Unit firing rate was calculated using EPA Method 19 fuel factors from the ultimate fuel analysis, measured volumetric flow rates, and stack gas oxygen content.

[2]All analytical values used to calculate and report an in-stack emissions value are less than the laboratory's reported detection level(s).

Operating parameters recorded during test runs can be found in the appendix to this report.

6.0 TEST RESULTS SUMMARY

Performance Testing Result Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	1/17/17	1/17/17	1/17/17	
Time	0930-1143	1230-1435	1630-1835	
Boiler Parameters				
Steam Flow Rate (Klb-steam/hr)	116.0	118.9	122.8	119.2
Steam Pressure (psi)	134.2	134.1	134.8	134.3
Steam Temperature (°F)	368	365	368	367
Boiler Excess Oxygen (%)	2.6	2.8	2.6	2.7
Multiclone Pressure Drop ("H2O)	1.6	1.5	1.7	1.6
ESP Cell 1 Voltage (kVDC)	36.6	36.8	36.9	36.7
ESP Cell 1 Current (mADC)	49.0	49.0	49.0	49.0
ESP Cell 2 Voltage (kVDC)	35.4	35.0	35.5	35.3
ESP Cell 2 Current (mADC)	71.5	71.5	71.5	71.5
ESP Cell 3 Voltage (kVDC)	34.9	34.5	35.0	34.8
ESP Cell 3 Current (mADC)	87.5	86.5	86.0	86.7
MMBtu/hr Firing Rate (Heat Input)[1]	185.2	197.5	209.9	197.5
MMBtu/hr Firing Rate (Steam Output)[2]	138.4	141.9	146.5	142.3
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	6.26	7.34	6.67	6.76
Carbon Dioxide (%vol)	14.02	13.13	13.82	13.66
Stack Temperature (°F)	333	329	314	326
Moisture Content (%)	21.91	20.54	20.78	21.08
Volumetric Flow Rate (acfm)	50,761	57,454	58,362	55,526
Volumetric Flow Rate (dscfm)	39,640	45,655	46,233	43,843
Filterable Particulate Matter (PM) Concentrations and Emission Rates – EPA Method 5				
Net Mass Collected (mg)	2.06	4.36	5.06	3.83
gr/dscf	0.000388	0.000716	0.000873	0.000659
lb/hr	0.132	0.280	0.346	0.253
lb/MMBtu Heat Input	7.12E-04	1.42E-03	1.65E-03	1.26E-03
lb/MMBtu Steam Output	9.54E-04	1.97E-03	2.36E-03	1.76E-03

Performance Testing Result Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Carbon Monoxide (CO) Concentrations and Emission Rates – EPA Method 10				
ppmvd	56.4	38.7	50.7	48.6
ppmvd @ 3% O_2	69.0	51.1	63.8	61.3
lb/hr	9.75	7.71	10.2	9.22
lb/MMBtu Heat Input	0.0527	0.0390	0.0487	0.0468
lb/MMBtu Steam Output	0.0704	0.0543	0.0696	0.0648
lb/1000 lb-steam	0.0841	0.0648	0.0831	0.0773
Hydrochloric Acid (HCl) Concentrations and Emission Rates – EPA Method 26A[3]				
Net Mass Collected (mg)	<0.0393	<0.0406	<0.0403	<0.0401
Sample Volume (dscf)	82.011	94.033	89.526	88.523
ppmvd	<0.0112	<0.0101	<0.0105	<0.0106
lb/hr	<0.00251	<0.00261	<0.00275	<0.00262
lb/MMBtu Heat Input	<1.36E-05	<1.32E-05	<1.31E-05	<1.33E-05
lb/MMBtu Steam Output	<1.81E-05	<1.84E-05	<1.88E-05	<1.84E-05
Percent Isokinetic (%)	104.5	104.1	97.8	102.1
Mercury (Hg) Concentrations and Emission Rates – EPA Method 30B				
µg/dscm	1.069	0.990	1.005	1.021
lb/hr	1.59E-04	1.69E-04	1.74E-04	1.67E-04
lb/MMBtu Heat Input	8.58E-07	8.57E-07	8.29E-07	8.48E-07
lb/MMBtu Steam Output	1.15E-06	1.19E-06	1.19E-06	1.18E-06
Sample Volume Unspiked Sample (L)	56.81	56.43	56.32	55.29
Sample Volume Spiked Sample (L)	55.38	55.16	55.33	56.52

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

[3]All analytical values used to calculate and report an in-stack emissions value are less than the laboratory's reported detection level(s).

6.0 TEST RESULTS SUMMARY

Table 6: Boiler MACT Performance Test Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	9/18/19	9/18/19	9/18/19	
Time	0900-1109	1207-1416	1510-1719	
Boiler Parameters				
Steam Flow Rate (Klb-steam/hr)	99.6	106.4	104.6	103.5
Steam Pressure (psi)	119.5	122.4	117.3	119.7
Steam Temperature (°F)	344	347	344	345
Boiler Excess Oxygen (%)	4.6	3.8	4.3	4.2
Multiclone Pressure Drop (“H2O)	1.7	1.6	1.7	1.7
ESP Cell 1 Voltage (kVDC)	219	218	204	214
ESP Cell 1 Current (mADC)	63	53	46	54
ESP Cell 2 Voltage (kVDC)	264	258	248	257
ESP Cell 2 Current (mADC)	92	81	73	82
ESP Cell 3 Voltage (kVDC)	287	279	269	278
ESP Cell 3 Current (mADC)	116	106	98	107
MMBtu/hr Firing Rate (Heat Input)[1]	162.27	162.08	171.46	165.27
MMBtu/hr Firing Rate (Steam Output)[2]	118.52	126.62	124.47	123.20
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	8.15	7.68	7.85	7.89
Carbon Dioxide (%vol)	12.76	13.20	13.09	13.02
Stack Temperature (°F)	413	370	354	379
Moisture Content (%)	20.06	20.09	21.32	20.49
Volumetric Flow Rate (acfm)	88,936	81,474	86,942	85,784
Volumetric Flow Rate (dscfm)	42,671	41,105	44,049	42,608
Filterable Particulate Matter (PM) Concentrations and Emission Rates – EPA Method 5				
Net Mass Collected (mg)	11.4	3.20	2.20	5.60
gr/dscf	0.00217	0.000658	0.000420	0.00108
lb/hr	0.794	0.232	0.158	0.395

Table 6: Boiler MACT Performance Test Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
lb/MMBtu Heat Input	4.89E-03	1.43E-03	9.24E-04	2.42E-03
lb/MMBtu Steam Output	6.70E-03	1.83E-03	1.27E-03	3.27E-03
Carbon Monoxide (CO) Concentrations and Emission Rates – EPA Method 10				
ppmvd	69.6	72.7	37.3	59.9
ppmvd @ 3% O_2	97.7	98.5	51.1	82.4
ppmvd @ 7% O_2	75.9	76.4	39.7	64.0
lb/hr	12.95	13.04	7.16	11.05
lb/MMBtu Heat Input	0.0798	0.0805	0.0417	0.0673
lb/MMBtu Steam Output	0.109	0.103	0.0575	0.0899
Hydrochloric Acid (HCl) Concentrations and Emission Rates – EPA Method 26A				
Net Mass Collected (mg)	0.0186	0.552	0.0355	0.202
ppmvd	0.00535	0.172	0.0102	0.0624
lb/hr	0.00130	0.0400	0.00256	0.0146
lb/MMBtu Heat Input	7.99E-06	2.47E-04	1.49E-05	9.00E-05
lb/MMBtu Steam Output	1.10E-05	3.16E-04	2.06E-05	1.16E-04

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

Table 7: Boiler MACT Hg Performance Test Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	11/06/19	11/06/19	11/06/19	
Time	0900-1000	1040-1140	1215-1315	
Boiler Parameters				
MMBtu/hr Firing Rate (Heat Input)[1]	174.8	169.8	163.0	169.2
MMBtu/hr Firing Rate (Steam Output)[2]	123.9	127.4	121.9	124.4
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	7.28	7.61	7.80	7.56
Carbon Dioxide (%vol)	12.96	12.91	12.68	12.85
Stack Temperature (°F)	381	417	376	391
Moisture Content (%)	17.34	18.17	17.63	17.71
Volumetric Flow Rate (acfm)	84,907	89,096	82,132	85,378
Volumetric Flow Rate (dscfm)	44,423	44,233	43,073	43,910
Mercury (Hg) Concentrations and Emission Rates – EPA Method 30B				
µg/dscm	1.545	1.427	1.247	1.406
lb/hr	2.57E-04	2.37E-04	2.01E-04	2.32E-04
lb/MMBtu Heat Input	1.47E-06	1.39E-06	1.23E-06	1.36E-06
lb/MMBtu Steam Output	2.07E-06	1.86E-06	1.65E-06	1.86E-06

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

6.0 TEST RESULTS SUMMARY

Table 6: Boiler MACT Performance Test Summary – Boiler Parameters				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	9/14/22	9/14/22	9/14/22	
Time	1000-1214	1322-1533	1618-1832	
Steam Flow Rate (Klb-steam/hr)	103	103	104	103
Steam Pressure (psi)	128	131	131	130
Steam Temperature (°F)	355	355	354	355
Boiler Excess Oxygen (%)	7.6	6.6	6.2	6.8
Multiclone Pressure Drop (“H2O)	1.2	1.0	1.1	1.1
ESP Cell 1 Voltage (kVDC)	35	35	35	35
ESP Cell 1 Current (mADC)	18.5	18	17.5	18.0
ESP Cell 2 Voltage (kVDC)	35	35	35	35
ESP Cell 2 Current (mADC)	66.5	64.5	63.25	64.8
ESP Cell 3 Voltage (kVDC)	35	35	35	35
ESP Cell 3 Current (mADC)	94.75	89	87.25	90.3
MMBtu/hr Firing Rate (Heat Input)[1]	164.4	170.1	177.3	170.6
MMBtu/hr Firing Rate (Steam Output)[2]	122.9	122.9	124.1	123.3

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

Table 7: Boiler MACT PM and HCl Performance Test Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	9/14/22	9/14/22	9/14/22	
Time	1000-1214	1322-1533	1618-1832	
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	7.61	6.65	6.64	6.97
Carbon Dioxide (%vol)	12.99	14.21	14.19	13.80
Stack Temperature (°F)	357	348	340	348
Moisture Content (%)	18.82	20.52	20.02	19.79
Volumetric Flow Rate (dscfm)	39,420	36,596	37,869	37,962
Filterable Particulate Matter (PM) Concentrations and Emission Rates – EPA Method 5[3]				
Net Mass Collected (mg)	<3.00	<3.00	<3.00	<3.00
gr/dscf	<0.000614	<0.000637	<0.000630	<0.000627
lb/hr	<0.208	<0.200	<0.205	<0.204
lb/MMBtu Heat Input[1]	<1.36E-03	<1.31E-03	<1.30E-03	<1.32E-03
lb/MMBtu Steam Output[2]	<1.69E-03	<1.63E-03	<1.65E-03	<1.66E-03
Hydrochloric Acid (HCl) Concentrations and Emission Rates – EPA Method 26A				
Net Mass Collected (mg)	0.0350	0.0950	0.0234	0.0511
ppmvd	0.0108	0.0305	0.00743	0.0162
lb/hr	0.00242	0.00633	0.00160	0.00345
lb/MMBtu Heat Input[1]	1.58E-05	4.16E-05	1.01E-05	2.25E-05
lb/MMBtu Steam Output[2]	1.97E-05	5.15E-05	1.29E-05	2.80E-05

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

[3]EPA Method 5 has an in-stack detection limit (ISDL) of 3 mg according to the Oregon Source Sampling Manual section 2.8.b. If PM results were found to be below the ISDL, the ISDL value is used when calculating numerical averages. If results are below the ISDL label the run and test series average as less than (<) the detection limit.

Table 8: Boiler MACT CO Performance Test Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	9/14/22	9/14/22	9/14/22	
Time	1000-1214	1322-1533	1618-1832	
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	7.61	6.65	6.64	6.97
Carbon Dioxide (%vol)	12.99	14.21	14.19	13.80
Stack Temperature (°F)	357	348	340	348
Moisture Content (%)	18.82	20.52	20.02	19.79
Volumetric Flow Rate (dscfm)	39,420	36,596	37,869	37,962
Carbon Monoxide (CO) Concentrations and Emission Rates – EPA Method 10				
ppmvd	0.0774	8.02	6.90	5.00
ppmvd @ 3% O_2	0.104	10.1	8.66	6.28
ppmvd @ 7% O_2	0.0810	7.82	6.72	4.88
lb/hr	0.0133	1.28	1.14	0.811
lb/MMBtu Heat Input[1]	8.71E-05	8.42E-03	7.23E-03	5.25E-03
lb/MMBtu Steam Output[2]	1.08E-04	1.04E-02	9.19E-03	6.57E-03

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

Table 9: Boiler MACT Hg Performance Test Summary				
Parameter	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	9/14/22	9/14/22	9/14/22	
Time	1000-1214	1322-1533	1618-1832	
Stack Gas Parameters – EPA Methods 1-4				
Oxygen (%vol)	7.61	6.65	6.64	6.97
Carbon Dioxide (%vol)	12.99	14.21	14.19	13.80
Stack Temperature (°F)	357	348	340	348
Moisture Content (%)	18.82	20.52	20.02	19.79
Volumetric Flow Rate (dscfm)	39,420	36,596	37,869	37,962
Mercury (Hg) Concentrations and Emission Rates – EPA Method 30B				
µg/dscm	0.801	0.916	0.850	0.856
lb/hr	1.18E-04	1.26E-04	1.21E-04	1.22E-04
lb/MMBtu Heat Input[1]	7.74E-07	8.25E-07	7.65E-07	7.88E-07
lb/MMBtu Steam Output[2]	9.60E-07	1.03E-06	9.75E-07	9.87E-07

[1] Pounds per million British Thermal Units (lb/MMBtu) for heat input was determined from EPA Method 19 using the dscf/MMBtu from the ultimate fuel analysis, stack gas O_2 content, and stack gas volumetric flow rates.

[2]Pounds per million British Thermal Units (lb/MMBtu) for steam output was determined from the boilers steam pressure, steam temperature, steam flow rate in thousand pounds-steam an hour (Klb-steam/hr), and the specific enthalpy of saturated steam identified in the saturated steam tables.

Ash Sample 1

Specialty Analytical

Date Reported: 06-Jun-12

CLIENT: Hampton Lumber Mills
Collection Date: 5/23/2012 10:00:00 AM
Project: Tillamook Ash
Lab ID: 1205205-001
Client Sample ID: Tillamook Ash
Matrix: SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**SW6010C**				Analyst: **CT**
Arsenic	1.95	1.92		mg/Kg	1	5/25/2012 2:44:43 PM
Cadmium	ND	0.096		mg/Kg	1	5/25/2012 2:44:43 PM
Lead	10.1	1.92		mg/Kg	1	5/25/2012 2:44:43 PM
Nickel	11.5	0.481		mg/Kg	1	5/25/2012 2:44:43 PM
CALCIUM CARBONATE EQUIVALENCE		**EPA/SOBEK**				Analyst: **mjf**
Calcium Carbonate Equiv.	42.9	0.010		%	1	5/31/2012 8:16:12 AM
FERTILIZER COMPONENTS		**FERT_TEST**				Analyst: **mjf**
Calcium carbonate	7.4	0		%	1	6/1/2012 8:46:24 AM
Lime Score	28	0			1	6/1/2012 8:46:24 AM
Magnesium Carbonate	1.3	0		%	1	6/1/2012 8:46:24 AM
MOISTURE CONTENT		**D2216**				Analyst: **AT**
Moisture Content	28.8	0.100		wt%	1	5/29/2012 4:00:00 PM
SIEVE ANALYSIS		**ASTM C136**				Analyst: **mjf**
Passing 10 mesh	100	0		%	1	6/1/2012 8:17:26 AM
Passing 20 mesh	100	0		%	1	6/1/2012 8:17:26 AM
Passing 40 mesh	76.0	0		%	1	6/1/2012 8:17:26 AM
Passing 100 mesh	28.0	0		%	1	6/1/2012 8:17:26 AM

Ash Sample 2

Specialty Analytical

WO#: **2206184**
Date Reported: **8/12/2022**

CLIENT: HLM-Tillamook Lumber
Project: Boiler Ash 2022
Lab ID: 2206184-001
Client Sample ID Boiler Ash #1

Collection Date: 6/15/2022
Matrix: SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MOISTURE CONTENT				**D2216**		Analyst: **VH**
Moisture Content	46.3	0.100		wt%	1	6/30/2022 12:22:40 PM
TOTAL SULFUR				**ASTM-D4294**	**ASTM-D129**	Analyst: **KH**
Sulfur	1040	10.6		mg/Kg	100	6/15/2022 8:37:00 PM
ICP/MS METALS-TOTAL RECOVERABLE				**SW 6020B**	**SW3050B**	Analyst: **AC**
Arsenic	ND	0.945		mg/Kg	10	8/9/2022 1:12:52 PM
Cadmium	0.142	0.0945		mg/Kg	10	8/9/2022 1:12:52 PM
Calcium	38600	945		mg/Kg	100	8/10/2022 12:28:23 PM
Lead	11.7	0.236		mg/Kg	10	8/9/2022 1:12:52 PM
Nickel	9.27	0.473		mg/Kg	10	8/9/2022 1:12:52 PM
TCLP METALS				**E1311/6020**	**SW3010A**	Analyst: **AC**
ICP/MS METALS-TCLP LEACHED						
Arsenic, TCLP	0.00819	0.00500		mg/L	10	6/16/2022 2:21:57 PM
Barium, TCLP	0.164	0.0500		mg/L	10	6/16/2022 2:21:57 PM
Cadmium, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:21:57 PM
Chromium, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:21:57 PM
Lead, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:21:57 PM
Nickel, TCLP	ND	0.0250		mg/L	10	6/16/2022 2:21:57 PM
Selenium, TCLP	ND	0.0500		mg/L	10	6/16/2022 2:21:57 PM
Silver, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:21:57 PM
TOTAL MERCURY				**SW 7471B**	**SW 7471B**	Analyst: **KH**
Mercury	ND	0.00993	HT	mg/Kg	1	8/5/2022 10:54:00 AM
TCLP METALS				**1311/7470**	**245.7**	Analyst: **KH**
CVAF MERCURY-TCLP LEACHED						
Mercury	ND	0.000500		mg/L	1	6/16/2022 12:46:00 PM
CALCIUM CARBONATE EQUIVALENCE				**EPA/SOBEK**		Analyst: **NK**
Calcium Carbonate Equiv.	88.9	0.0100		%	1	7/7/2022 9:00:04 AM
FERTILIZER COMPONENTS				**FERT_TEST**		Analyst: **JRC**
Calcium carbonate	9.6	0		%	1	7/18/2022 8:42:44 AM
Lime Score	15	0			1	7/18/2022 8:42:44 AM
Magnesium Carbonate	2.4	0		%	1	7/18/2022 8:42:44 AM
CORROSIVITY BY PH				**SW9045D**		Analyst: **AT**
pH	9.68	1.00		pH Units	1	6/15/2022 4:07:13 PM
SIEVE ANALYSIS				**ASTM C117/C136**		Analyst: **AT**

Ash Sample 3

Specialty Analytical

WO#: **2206184**
Date Reported: **8/12/2022**

CLIENT: HLM-Tillamook Lumber
Project: Boiler Ash 2022
Lab ID: 2206184-002
Client Sample ID Boiler Ash #2

Collection Date: 6/15/2022
Matrix: SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MOISTURE CONTENT				**D2216**		Analyst: **VH**
Moisture Content	48.0	0.100		wt%	1	6/30/2022 12:22:40 PM
TOTAL SULFUR				**ASTM-D4294**	**ASTM-D129**	Analyst: **KH**
Sulfur	601	11.7		mg/Kg	100	6/15/2022 8:54:00 PM
ICP/MS METALS-TOTAL RECOVERABLE				**SW 6020B**	**SW3050B**	Analyst: **AC**
Arsenic	ND	0.986		mg/Kg	10	8/9/2022 1:16:11 PM
Cadmium	0.139	0.0986		mg/Kg	10	8/9/2022 1:16:11 PM
Calcium	38200	986		mg/Kg	100	8/10/2022 12:31:43 PM
Lead	19.5	0.246		mg/Kg	10	8/9/2022 1:16:11 PM
Nickel	10.9	0.493		mg/Kg	10	8/9/2022 1:16:11 PM
TCLP METALS				**E1311/6020**	**SW3010A**	Analyst: **AC**
ICP/MS METALS-TCLP LEACHED						
Arsenic, TCLP	0.00623	0.00500		mg/L	10	6/16/2022 2:35:14 PM
Barium, TCLP	0.215	0.0500		mg/L	10	6/16/2022 2:35:14 PM
Cadmium, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:35:14 PM
Chromium, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:35:14 PM
Lead, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:35:14 PM
Nickel, TCLP	ND	0.0250		mg/L	10	6/16/2022 2:35:14 PM
Selenium, TCLP	ND	0.0500		mg/L	10	6/16/2022 2:35:14 PM
Silver, TCLP	ND	0.00500		mg/L	10	6/16/2022 2:35:14 PM
TOTAL MERCURY				**SW 7471B**	**SW 7471B**	Analyst: **KH**
Mercury	ND	0.00986	HT	mg/Kg	1	8/5/2022 11:02:00 AM
TCLP METALS				**1311/7470**	**245.7**	Analyst: **KH**
CVAF MERCURY-TCLP LEACHED						
Mercury	ND	0.000500		mg/L	1	6/16/2022 12:48:00 PM
CALCIUM CARBONATE EQUIVALENCE				**EPA/SOBEK**		Analyst: **NK**
Calcium Carbonate Equiv.	93.2	0.0100		%	1	7/7/2022 9:00:04 AM
FERTILIZER COMPONENTS				**FERT_TEST**		Analyst: **JRC**
Calcium carbonate	9.5	0		%	1	7/18/2022 8:42:44 AM
Lime Score	15	0			1	7/18/2022 8:42:44 AM
Magnesium Carbonate	2.4	0		%	1	7/18/2022 8:42:44 AM
CORROSIVITY BY PH				**SW9045D**		Analyst: **AT**
pH	9.50	1.00		pH Units	1	6/15/2022 4:09:13 PM
SIEVE ANALYSIS				**ASTM C117/C136**		Analyst: **AT**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION		
PRODUCT NAME:	STEEL PLATE, COIL, AND SLAB	
PRODUCT CODE:	None established	
PRODUCT DESCRIPTION:	Carbon or High Strength, Low Alloy or Alloy	
FORMULA:	N/A	
SYNONYMS:	Steel Plate, Coil or Slab	
MSDS DATE:	April 2011	
	MANUFACTURER/SUPPLIER	
Evraz Inc. NA P.O. Box 2760 Portland, OR 97208	Emergency Number:	800-242-9300 (CHEMTREC)
	Non-Emergency Number:	503-286-9651 Monday-Friday 8 - 5 PST

2. HAZARDS IDENTIFICATION
* * * * * * * **EMERGENCY OVERVIEW** * * * * * * *
In the finished state, steel is not expected to present inhalation, ingestion, or contact health hazards. Dust or fumes may be generated by operations involving grinding, welding, cutting, machining, etc. Dust or fumes may irritate the eyes, skin, and respiratory tract. Molten metal may cause thermal burns. Rough edges may cause physical abrasion or irritation.
ROUTES OF ENTRY: Inhalation, eye contact, skin contact
INHALATION: Chronic doses of airborne manganese can affect motor skills (symptoms include languor, sleepiness, weakness, emotional disturbances, spastic gait, and paralysis) and cause sexual dysfunction. Overexposure to iron oxide can cause a non-disabling lung condition called Siderosis, observed as an X-ray change. Inhalation of particulate can cause lung inflammation.
SKIN CONTACT: Contact with steel particulate may cause mechanical irritation or abrasion. Burns will result from contact with heated metal.
EYE CONTACT: Steel can cause physical irritation, tearing. Particles of iron which become imbedded in the eye may cause rust stains if not removed.
INGESTION: Not a likely route of entry. Not expected to be toxic by ingestion.
CARCINOGENICITY: **NTP:** Not listed in the 2005 11th Report on Carcinogens. **IARC:** Welding fume is listed as possibly carcinogenic to humans (Group 2B). **OSHA:** Not listed.

3. COMPOSITION		
INGREDIENT NAME	**CAS #**	**CONCENTRATION**
Iron (Fe)	7439-89-6	Balance
Manganese (Mn)	7439-96-5	< 2 %
[1]Iron metal is not considered hazardous under OSHA Hazard Communication definition. Manganese (Mn) and iron oxide fume (Fe_2O_3), represented in this MSDS, are classified as hazardous under OSHA regulations. In addition to the listed components, all commercial steel products contain small amounts of various elements in small quantities frequently referred to as "trace" or "residual" elements, which originate in the raw materials used. Based on statistical analyses of quality control data, average content of carbon, phosphorus, sulfur, silicon, copper, nickel, vanadium, niobium, aluminum, chromium, molybdenum, titanium, tin, boron, nitrogen, and calcium are not expected to exceed 1%. Based on data from raw materials suppliers, arsenic, beryllium and cadmium do not exceed 0.1%, and cobalt, selenium, zinc and tungsten do not		

exceed 1%.
Coatings may be present on steel product. Refer to the coating MSDS for additional information.

4. FIRST AID MEASURES
For dusts or fumes which could be generated from the steel product:
INHALATION: If irritation occurs, remove to fresh air. Seek medical attention if symptoms persist.
SKIN: Wash thoroughly with soap and water, consistent with good hygiene practice. Remove metal splinters. Get medical advice if rash or persistent irritation or dermatitis occurs or if splinter is not easily removed.
EYE: Immediately flush with copious amounts of water for at least 15 minutes, carefully lifting eyelid to expose the eye to contact with the water. Remove contact lens, if present, and repeat flush. For contact with molten material, treat as for skin burns. If any symptoms or irritation persist, contact a physician.
INGESTION: If excessive particulate is ingested, consult a doctor. Do not induce vomiting.

5. FIRE FIGHTING MEASURES	
FLASH POINT:	N/A
AUTO IGNITION TEMPERATURE:	N/A
FLAMMABLE LIMITS:	N/A
EXPLOSIVE LIMITS:	N/A
HAZARDOUS COMBUSTION PRODUCTS: N/A	
FIRE AND EXPLOSION HAZARD: N/A	
EXTINGUISHING MEDIA: None required. This material is completely non-combustible. For fire in close proximity, use standard fire-fighting practices.	
PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: Wear self-contained breathing apparatus and turnout gear consistent with standard practices.	

6. ACCIDENTAL RELEASE MEASURES:
SPILL OR LEAK PROCEDURES: Where dust is generated, vacuum or use water to wet down and minimize dust during cleanup. See Section 8 for exposure control and personal protection information.

7. HANDLING AND STORAGE:
HANDLING AND STORAGE PRECAUTIONS: Store away from strong oxidizers. Wash thoroughly after handling. If processed in a manner which generates dust or fumes, see Section 8 for specific controls and personal protection equipment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

EXPOSURE GUIDELINES:

Component	**OSHA PEL**		**ACGIH TLV**		**NIOSH REL**
	TWA	**STEL**	**TWA**	**STEL**	**TWA**
Iron oxide	10 mg/m^3	NE	5 mg/m^3 (R)	NE	5 mg/m^3
Manganese	NE	C-5 mg/m^3	*0.2 mg/m^3	NE	NE

* 2011 Proposed TLV TWA of 0.2 mg/m3 (inhalable) and 0.02 mg/m3 (respirable) for manganese fume. N.E. – Not Established. C – Ceiling Limit.

EYE PROTECTION: Wear safety glasses with side shields when handling or using this product as a general safe practice. For grinding, welding, and cutting of the product, use eye protection consistent with OSHA Standards and the American National Standards Institute (Z87.1-1989).

SKIN PROTECTION: Wear leather gloves or welders gloves to protect against burns, cuts, and abrasions.
RESPIRATORY PROTECTION: Avoid breathing dust or fumes generated from grinding, welding, cutting, machining, etc. • If dust or fume concentration is greater than the OSHA PEL, but less than 10 times PEL, use a NIOSH approved half-mask respirator with P-100 cartridge. • For concentrations above 10 times PEL, but less than 50 times PEL use a NIOSH approved full-face respirator with P-100 cartridge or a powered air-purifying respirator. • Where airborne concentrations may exceed 50 times PEL, use supplied-air.
ENGINEERING CONTROLS: Welding, sawing, burning, melting, brazing, grinding or other similar processes should be performed in well ventilated areas. Use local exhaust ventilation to maintain airborne dust or fume concentration below PEL. If ventilation fails to maintain concentrations below the PEL, respiratory protection is required by federal and/or state regulations.
GENERAL HYGIENE CONSIDERATIONS: Wash thoroughly after handling and before eating or drinking.

9. PHYSICAL AND CHEMICAL PROPERTIES:	
PHYSICAL STATE:	Solid
APPEARANCE:	Gray-black metallic solid. Iron oxide fume is red-brown in color.
ODOR:	Metallic taste
BOILING POINT:	N/A
MELTING POINT:	Fe2O3- 1597 deg C (2907 deg F)
pH:	N/A
SOLUBILITY IN WATER:	Insoluble. Soluble in dilute acids.
SPECIFIC GRAVITY:	7.6-7.8 (water=1)
% VOLATILE BY WEIGHT:	N/A
VAPOR PRESSURE:	Fe2O3- 0 torr at 20°C
VAPOR DENSITY:	N/A

10. REACTIVITY/STABILITY:
STABILITY: Stable at normal ambient temperature and pressure (70 °F and 760 mm Hg) or anticipated storage and handling conditions.
CONDITIONS TO AVOID: Avoid generation of dust, excessive heat and ignition sources, and incompatible materials.
HAZARDOUS POLYMERIZATION: Does not occur.
INCOMPATIBILITIES: Iron oxide reacts violently with calcium hypochlorite. Steel reacts with strong acids to release flammable/ explosive hydrogen gas.
DECOMPOSITION PRODUCTS: Manganese reacts with acids to release flammable/ explosive hydrogen gas. Thermal decomposition of iron can produce metal oxides.

11. TOXICOLOGICAL INFORMATION:
Skin and eye irritation studies were available for iron oxide. Toxicological studies for manganese are summarized in the Agency for Toxic Substances and Disease Registry (ATSDR) Toxicological Profile.
ACUTE DOSE EFECTS: LD50: Fe2O3- acute oral >10000 mg/kg (rat), Mn- oral >9000 mg/kg (rat)
REPEATED DOSE EFFECTS: Chronic inhalation overexposures to manganese may result in neurological damage and affect motor skills. ATSDR 2008 chronic inhalation reference concentration (RfC) of 0.04 µg/m3 for respirable manganese.

IRRITATION: Not expected to be irritating to skin or eyes.
SENSITIZATION: None listed
CARCINOGENICITY: See Section 3
GENETIC EFFECTS: None listed
REPRODUCTIVE TOXICITY: Chronic overexposures to manganese may result in impotence.
DEVELOPMENTAL EFFECTS: Animal studies indicate that exposure to high levels of manganese can cause birth defects in the unborn.

12. ECOLOGICAL INFORMATION:
Iron and manganese exist naturally in the environment. Manganese is limited in drinking water to reduce staining.

13. DISPOSAL CONSIDERATIONS:
Recovery and recycling, rather than disposal, should be the ultimate goal of handling efforts. If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CRF 261. Dispose of according to local, state/provincial, and federal regulations.
EPA Waste Codes: N/A for product

14. TRANSPORT INFORMATION:	
D.O.T. SHIPPING NAME:	N/A
TECHNICAL SHIPPING NAME:	N/A
D.O.T. HAZARD CLASS:	N/A
U.N/N.A. NUMBER:	N/A
SPECIAL SHIPPING INFO:	N/A

15. REGULATORY INFORMATION:
Users should comply with applicable OSHA and other state and federal regulations, including (but not limited to) 29 CFR 1910.1000 (air contaminants) and 29 CFR 1910.1200 (hazard communication).
TSCA Inventory Status: Product excluded from the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
SARA Title III Sect. 302 (EHS) / CERCLA Hazardous Substances: This material contains no Reportable Quantity (RQ) Substances.
SARA Title III Sect. 311/312 Hazard Classes: Product excluded from SARA regulations.
SARA Title III Sect. 313 Toxic Chemicals: Manganese (N450)
Components are listed on the following US state right-to-know lists: Alaska, California, Florida, Illinois, Kansas, Minnesota, Missouri, New Jersey, Pennsylvania, Rhode Island, Texas, West Virginia, and Wisconsin.

16. OTHER INFORMATION:	
MSDS STATUS / REVISION NUMBER:	Final / 6.0
PREPARED BY:	PCA Health and Safety Consultants, Inc. Lake Oswego, OR (503) 652-6040

2.4 DECLARATION OF METHODOLOGICAL FRAMEWORK

The scope of the EPD is cradle-to-gate, including raw material extraction and processing, transportation, steel manufacture and hot rolling. The life cycle phases included in the product system boundary are shown below.

Table 1. *Life cycle phases included in the EVRAZ steel plate product system boundary.*

Product			Construction Process		Use							End-of-life				Benefits and loads beyond the system boundary
A1	A2	A3	A4	A5	B1	B1	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material extraction and processing	Transport to manufacturer	Manufacturing	Transport	Construction - installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, recovery and/or recycling potential
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

X = Module Included | MND = Module Not Declared

Cut-off and allocation procedures are described below and conform to the PCR and ISO standards.

2.5 TECHNICAL DATA

Technical specifications for the steel plate in this study include ASTM A36, ASTM A572, ASTM A514, ASTM A516, ASTM A656, ASTM A709, ABS Grades A, B, D, AH32, AH36, DH32 and DH36.

2.6 INTENDED APPLICATION

The intended application of the steel plate is for manufacture of railcars, barges, ocean-going vessels, industrial equipment, tanks and pressure vessels, large diameter pipe for oil and natural gas transmission, wind towers, bridges, armored vehicles and many other applications.

2.7 MATERIAL COMPOSITION

The steel coil modeled in this study contains 100% recycled steel scrap with an alloy content lower than 5%. In general, the steel products will contain 95-99% recycled iron, including < 2% Manganese, ≤ 1% Carbon, <1% Silicon, ≤ 0.5% Chromium, ≤0.5% Copper, ≤0.2% Nickel, and other alloying elements, each less than 0.1% of the total.

Steel construction products under normal conditions do not present inhalation, ingestion, or contact health hazards. These products are used inside the building envelope, or other structures, and do not include materials or substances which have potential route of exposure to humans or flora/fauna in the environment.

2.8 PROPERTIES OF DECLARED PRODUCT AS DELIVERED

The steel plate is produced in over 500 grades and specifications of steel plate, depending upon the customer's requirements.

Appendix D – DEQ Forms

- AQ 520 Form – Air Toxics Reporting Form
- AQ 523 Form – Categorically Exempt Toxics Emissions Units

AQ520 Form - Version 1.6
5/10/2021

Facility Information	
Facility Name	Hampton Lumber Mills, Inc. dba Tillamook Lumber Company
Facility Address	3111 East 3rd Street
City	Tillamook
Zip Code	97141
Source Number (for existing sources)	29-0007
Facility Contact	Eric Bornhorst
Phone Number	971-201-2903

INSTRUCTIONS:
- **Toxic Emissions Unit and Stack/Fugitive ID**: use IDs consistent with permit identifiers if applicable.
- **Activity Units/Type:** where possible, maintain consistency with permitted/reported Units/Type.
- **Max Daily Activity:** for semi-continuous/batch processes this value should account for co-occurring activities, process and/or maintenance, that would account for the potential maximum emissions activities for this pollutant.
  - **Actual:** values should be based on the last full year reported to DEQ or estimates of normal activity (new sources).
  - **Capacity:** maximum activity value achievable with 100% operational up-time for this unit.
  - **Requested PTE:** values that a source is requesting to be permitted on that differ from "Actuals" and "Capacity".

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5/10/2021

Emissions Unit Information			Stack/Fugitive Information		Activity Information							
							Annual - Chronic [units/year]			Max Daily - Acute [units/day]		
Toxics Emissions Unit ID	Unit Description	Control Device[s]	Emission Type (e.g. Point or Fugitive)	Stack or Fugitive ID	Units (e.g. hours operation, tons material, gallons)	Description/Type	Actual	Requested PTE	Capacity	Actual	Requested PTE	Capacity
TEU-1	**Widget Maker 1 (EXAMPLE)**	**Widget Waste RCO**	**Point**	**ST-1**	**tons**	**Input Material X**	**100**	**140**	**200**	**0.3**	**0.5**	**0.8**
KILNS-Hem	Drying Kilns - Hemlock	None	Point	KILN	MBF	Lumber	200143	375000		640	1071.05	
KILNS-Mixed	Drying Kilns - Annual Mixed Species, Daily Douglas Fir	None	Point	KILN	MBF	Lumber	19490	375000		960	1532.72	
BOIL	Hogged Fuel Boiler	Multiclone & ESP	Point	BOIL	MMBtu	Heat Input	901894	1419120		3792.8	5184	
TSDHT1	Truck Shop Diesel Heater (3.6 gal/hr max)	None	Point	TSDHT1	Mgal	Diesel	2.4257	4		0.0432	0.0864	
TSDHT2	Truck Shop Diesel Heater (4.0 gal/hr max)	None	Point	TSDHT2	Mgal	Diesel	1.0516	4		0.048	0.096	
ASH1	Ash Handling - Transfer 1	None	Fugitive	ASH1	tons	transferred	768.7	1250		2.35	3.5	
ASH2	Ash Handling - Transfer 2	None	Fugitive	STOCKP	tons	transferred	768.7	1250		2.35	3.5	
ASH3	Ash Handling - Transfer 3	None	Fugitive	STOCKP	tons	transferred	768.7	1250		2.35	3.5	
WELD-E71T	Welding - E71T	None	Fugitive	MAINT	MLbs	Weld Wire	0.198	0.45		0.000952	0.036	
WELD-E7018	Welding - E7018	None	Fugitive	MAINT	MLbs	Weld Wire	0.26	1		0.00125	0.032	
WELD-ER70S-6	Welding - ER70S-6	None	Fugitive	MAINT	MLbs	Weld Wire	0.033	0.76		0.000159	0.035	
PLASMAT	Plasma Table Metal Cutting	None	Fugitive	MAINT	Hrs	Cutting time	131.5	225		0.632	1.25	
PLASMAH	Plasma Handheld Metal Cutting	None	Fugitive	MAINT	Hrs	Cutting time	131.5	225		0.632	1.25	
TORCH	Oxy-Acetylene Torch Metal Cutting	None	Fugitive	MAINT	Hrs	Cutting time	350	600		1.683	3	

INSTRUCTIONS:
- **CAS or DEQ ID**: either use the drop-down provided or simply cut and paste each pollutant CAS number or DEQ ID (see DEQ Pollutant List Worksheet) emitted by the referenced TEU.
- **Chemical Name:** if a CAS number or DEQ ID is entered in *Column B, Column C* should perform a lookup from the DEQ Air Toxics list; alternatively, simply cut and paste the chemical names that correspond to the CAS numbers/DEQ ID in *Column B* if applicable.
- **Control Efficiency:** enter the pollutant specific control efficiency - this should include all capture and removal process efficiencies applicable t o each individual pollutant.
- **EF Values:** provide emission factors for Annual and Max Daily conditions; if Annual and Max Daily EF values are equivalent, please enter value in Annual (*Column F*).
- **Emission Factor Information Reference/Notes:** provide EF references (e.g. Source Tests, AP-42, Engineering Estimates, etc) as well as any additional notes (e.g. control efficiencies).
- **Calculated Emissions:** follow guidance in "*Form Instructions*" worksheet for specific formulas.

AQ520 Form - Version 1.6
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Toxic Emissions Unit ID	Pollutant Information		Control Efficiency	Emission Factor Information				Calculated Emissions					
				EF Values		Units	Reference/Notes	Annual - Chronic [lb/yr]			Max Daily - Acute [lb/day]		
	CAS or DEQ ID	Chemical Name		Annual - Chronic	Max Daily - Acute			Actual	Requested PTE	Capacity	Actual	Requested PTE	Capacity
TEU-1	61-82-5	Amitrole	97.50%	2.5		lb/ton	Annual and max daily EF values are the same for this TEU and its	6.25	8.75	12.5	0.01875	0.03125	0.05
TEU-1	7440-38-2	Arsenic and compounds	0.00%	0.1		lb/ton	The control efficiency does not apply to this pollutant	10	14	20	0.03	0.05	0.08
Kilns-Hem	75-07-0	Acetaldehyde	0.00%	0.1128	0.1128	lb/MBF	DEQ AQ-EF-09 (2021). Annual and daily emission factor for Hemlock		42300			120.81444	
Kilns-Hem	107-02-8	Acrolein	0.00%	0.0018	0.0018	lb/MBF	DEQ AQ-EF-09 (2021). Annual and daily emission factor for Hemlock		675			1.92789	
Kilns-Mixed	50-00-0	Formaldehyde	0.00%	0.0021584	0.0025	lb/MBF	DEQ AQ-EF-09 (2021). Annual emission factor is mixture of Hemlock		809.4			3.8318	
Kilns-Hem	67-56-1	Methanol	0.00%	0.10972	0.10972	lb/MBF	DEQ AQ-EF-09 (2021). Annual and daily emission factor for Hemlock		41145			117.515606	
Kilns-Mixed	123-38-6	Propionaldehyde	0.00%	0.0012	0.0009	lb/MBF	DEQ AQ-EF-09 (2021). Annual emission factor for Hemlock, and daily		450			1.379448	
BOIL	7647-01-0	Hydrochloric acid	0.00%	0.00003304		lb/MMBtu	Average source tests 2016-2022		46.8877248			0.17127936	
BOIL	7439-97-6	Mercury and compounds	0.00%	0.000001054		lb/MMBtu	Average source tests 2016-2022		1.49575248			0.005463936	
BOIL	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (Hp	0.00%	9.76E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.38506E-05			5.05958E-08	
BOIL	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	0.00%	2.46E-11		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		3.49104E-05			1.27526E-07	
BOIL	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCD	0.00%	8.7E-13		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.23463E-06			4.51008E-09	
BOIL	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCD	0.00%	2.09E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		2.96596E-06			1.08346E-08	
BOIL	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDI	0.00%	1.33E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.88743E-06			6.89472E-09	
BOIL	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCD	0.00%	2.21E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		3.13626E-06			1.14566E-08	
BOIL	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.00%	9.53E-13		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.35242E-06			4.94035E-09	
BOIL	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCD	0.00%	5.71E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		8.10318E-06			2.96006E-08	
BOIL	39001-02-0	Octachlorodibenzofuran (OCDF)	0.00%	5E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		7.0956E-06			2.592E-08	
BOIL	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.00%	3.56E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		5.05207E-06			1.8455E-08	
BOIL	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCD	0.00%	7.98E-13		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.13246E-06			4.13683E-09	
BOIL	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00%	3.16E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		4.48442E-06			1.63814E-08	
BOIL	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.00%	3.99E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		5.66229E-06			2.06842E-08	
BOIL	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.00%	6.67E-13		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		9.46553E-07			3.45773E-09	
BOIL	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.00%	2.66E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		3.77486E-06			1.37894E-08	
BOIL	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.00%	6.09E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		8.64244E-06			3.15706E-08	
BOIL	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TcDF)	0.00%	8.04E-12		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.14097E-05			4.16794E-08	
BOIL	83-32-9	Acenaphthene	0.00%	0.000000853		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.21050936			0.004421952	
BOIL	208-96-8	Acenaphthylene	0.00%	0.00000469		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		6.6556728			0.02431296	
BOIL	75-07-0	Acetaldehyde	0.00%	0.000283		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		401.61096			1.467072	
BOIL	98-86-2	Acetophenone	0.00%	0.00000184		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		2.6111808			0.00953856	
BOIL	107-02-8	Acrolein	0.00%	0.00026		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		368.9712			1.34784	
BOIL	120-12-7	Anthracene	0.00%	0.00000268		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		3.8032416			0.01389312	
BOIL	71-43-2	Benzene	0.00%	0.00098		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1390.7376			5.08032	
BOIL	56-55-3	Benz[a]anthracene	0.00%	8.13E-08		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.115374456			0.000421459	
BOIL	50-32-8	Benzo[a]pyrene	0.00%	0.00000222		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		3.1504464			0.01150848	
BOIL	205-99-2	Benzo[b]fluoranthene	0.00%	0.000000142		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.20151504			0.000736128	
BOIL	192-97-2	Benzo[e]pyrene	0.00%	0.000000211		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.29943432			0.001093824	
BOIL	191-24-2	Benzo[g,h,i]perylene	0.00%	0.000000151		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.21428712			0.000782784	
BOIL	205-82-3	Benzo[j]fluoranthene	0.00%	0.000000156		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.22138272			0.000808704	
BOIL	207-08-9	Benzo[k]fluoranthene	0.00%	5.18E-08		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.073510416			0.000268531	
BOIL	7440-41-7	Beryllium and compounds	0.00%	2.85E-08		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.04044492			0.000147744	
BOIL	85-68-7	Butyl benzyl phthalate	0.00%	0.0000268		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		38.032416			0.1389312	
BOIL	56-23-5	Carbon tetrachloride	0.00%	0.00000987		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		14.0067144			0.05116608	
BOIL	108-90-7	Chlorobenzene	0.00%	0.0000166		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		23.557392			0.0860544	
BOIL	67-66-3	Chloroform	0.00%	0.0000201		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		28.524312			0.1041984	
BOIL	95-57-8	2-Chlorophenol	0.00%	2.35E-08		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.03334932			0.000121824	
BOIL	218-01-9	Chrysene	0.00%	0.000000079		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.11211048			0.000409536	
BOIL	4170-30-3	Crotonaldehyde	0.00%	0.0000448		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		63.576576			0.2322432	
BOIL	98-82-8	Isopropylbenzene (cumene)	0.00%	0.0000177		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		25.118424			0.0917568	
BOIL	53-70-3	Dibenz[a,h]anthracene	0.00%	9.56E-09		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.013566787			4.9559E-05	
BOIL	100-41-4	Ethyl benzene	0.00%	0.0000122		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		17.313264			0.0632448	
BOIL	206-44-0	Fluoranthene	0.00%	0.00000158		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		2.2422096			0.00819072	
BOIL	86-73-7	Fluorene	0.00%	0.00000301		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		4.2715512			0.01560384	
BOIL	50-00-0	Formaldehyde	0.00%	0.00105		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1490.076			5.4432	
BOIL	110-54-3	Hexane	0.00%	0.000288		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		408.70656			1.492992	
BOIL	74-90-8	Cyanide, hydrogen	0.00%	0.0000205		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		29.09196			0.106272	
BOIL	193-39-5	Indeno[1,2,3-cd]pyrene	0.00%	0.000000102		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.14475024			0.000528768	
BOIL	7439-92-1	Lead and compounds	0.00%	0.00000521		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		7.3936152			0.02700864	
BOIL	67-56-1	Methanol	0.00%	0.000732		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1038.79584			3.794688	
BOIL	75-09-2	Dichloromethane (methylene chloride)	0.00%	0.000398		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		564.80976			2.063232	
BOIL	78-93-3	2-Butanone (methyl ethyl ketone)	0.00%	0.00000697		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		9.8912664			0.03613248	
BOIL	108-10-1	Methyl isobutyl ketone (MIBK, hexone)	0.00%	0.000445		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		631.5084			2.30688	
BOIL	91-57-6	2-Methyl naphthalene	0.00%	0.0000014		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.986768			0.0072576	
BOIL	91-20-3	Naphthalene	0.00%	0.0000996		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		141.344352			0.5163264	
BOIL	198-55-0	Perylene	0.00%	0.000000032		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.04541184			0.000165888	
BOIL	85-01-8	Phenanthrene	0.00%	0.00000646		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		9.1675152			0.03348864	
BOIL	108-95-2	Phenol	0.00%	0.00016		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		227.0592			0.82944	
BOIL	123-38-6	Propionaldehyde	0.00%	0.000311		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		441.34632			1.612224	
BOIL	129-00-0	Pyrene	0.00%	0.00000354		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		5.0236848			0.01835136	
BOIL	100-42-5	Styrene	0.00%	0.000469		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		665.56728			2.431296	
BOIL	108-88-3	Toluene	0.00%	0.0000114		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		16.177968			0.0590976	
BOIL	79-01-6	Trichloroethene (TCE, trichloroethylene)	0.00%	0.0000199		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		28.240488			0.1031616	
BOIL	75-01-4	Vinyl chloride	0.00%	0.0000184		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		26.111808			0.0953856	
BOIL	1330-20-7	Xylene (mixture), including m-xylene, o-xylene	0.00%	0.00000522		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		7.4078064			0.02706048	
BOIL	7440-66-6	Zinc and compounds	0.00%	0.0000576		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		81.741312			0.2985984	
BOIL	71-55-6	1,1,1-Trichloroethane (methyl chloroform)	0.00%	0.0000578		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		82.025136			0.299352	
BOIL	107-06-2	Ethylene dichloride (EDC, 1,2-dichloroethane)	0.00%	0.0000292		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		41.438304			0.1513728	
BOIL	78-87-5	1,2-Dichloropropane (propylene dichloride)	0.00%	0.0000168		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		23.841216			0.0870912	
BOIL	106-46-7	p-Dichlorobenzene (1,4-dichlorobenzene)	0.00%	0.000279		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		395.93448			1.446336	
BOIL	832-69-9	1-Methylphenanthrene	0.00%	0.000000259		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.36755208			0.001342656	
BOIL	88-06-2	2,4,6-Trichlorophenol	0.00%	0.0000002		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.283824			0.0010368	
BOIL	51-28-5	2,4-Dinitrophenol	0.00%	0.00000018		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.2554416			0.00093312	
BOIL	121-14-2	2,4-Dinitrotoluene	0.00%	0.000000942		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		1.33681104			0.004883328	
BOIL	56-49-5	3-Methylcholanthrene	0.00%	8.68E-09		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.012317962			4.49971E-05	
BOIL	534-52-1	4,6-Dinitro-o-cresol (and salts)	0.00%	0.0000021		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		2.980152			0.0108864	
BOIL	100-02-7	4-Nitrophenol	0.00%	0.000000114		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.16177968			0.000590976	
BOIL	57-97-6	7,12-Dimethylbenz[a]anthracene	0.00%	4.57E-09		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.006485378			2.36909E-05	
BOIL	67-64-1	Acetone	0.00%	0.000529		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		750.71448			2.742336	
BOIL	74-83-9	Bromomethane (methyl bromide)	0.00%	0.0000113		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		16.036056			0.0585792	
BOIL	74-87-3	Chloromethane (methyl chloride)	0.00%	0.0000435		lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		61.73172			0.225504	

BOIL	2051-24-3	PCB-209 [decachlorobiphenyl]	0.00%	2.65E-10			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.000376067			1.37376E-06
BOIL	117-81-7	bis(2-Ethylhexyl) phthalate (DEHP)	0.00%	4.65E-08			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.06598908			0.00024105
BOIL	84-74-2	Dibutyl phthalate	0.00%	0.0000333			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		47.256696			0.1726272
BOIL	84-66-2	Diethylphthalate	0.00%	0.0000436			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		61.873632			0.2260224
BOIL	67-63-0	Isopropyl alcohol	0.00%	0.00452			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		6414.4224			23.43168
BOIL	87-86-5	Pentachlorophenol	0.00%	0.000000214			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.30369168			0.001109376
BOIL	127-18-4	Tetrachloroethene (perchloroethylene)	0.00%	0.0000246			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		34.910352			0.1275264
BOIL	75-69-4	Trichlorofluoromethane (Freon 11)	0.00%	0.0000139			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		19.725768			0.0720576
BOIL	7664-39-3	Hydrogen fluoride	0.00%	0.0000905			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		128.43036			0.469152
BOIL	7440-36-0	Antimony and compounds	0.00%	0.000000306			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.43425072			0.001586304
BOIL	7440-38-2	Arsenic and compounds	0.00%	0.00000189			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		2.6821368			0.00979776
BOIL	7440-43-9	Cadmium and compounds	0.00%	0.000000324			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.45979488			0.001679616
BOIL	18540-29-9	Chromium VI, chromate and dichromate partic	0.00%	0.000000272			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.38600064			0.001410048
BOIL	7440-48-4	Cobalt and compounds	0.00%	0.000000497			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.70530264			0.002576448
BOIL	7440-50-8	Copper and compounds	0.00%	0.00000379			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		5.3784648			0.01964736
BOIL	7439-96-5	Manganese and compounds	0.00%	0.0000957			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		135.809784			0.4961088
BOIL	365	Nickel compounds, insoluble	0.00%	0.0000028			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		3.973536			0.0145152
BOIL	504	Phosphorus and compounds	0.00%	0.00031			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		439.9272			1.60704
BOIL	7782-49-2	Selenium and compounds	0.00%	0.000000162			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		2.2989744			0.00839808
BOIL	7440-39-3	Barium and compounds	0.00%	0.000209			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		296.59608			1.083456
BOIL	7440-62-2	Vanadium (fume or dust)	0.00%	0.000000594			lb/MMBtu	NCASI Pulp and Paper Air Toxics Database (May 2019). Emission fac		0.84295728			0.003079296
BOIL	1313-27-5	Molybdenum trioxide	0.00%	3.10532E-06			lb/MMBtu	Boiler - Wood w/ESP or Fabric Filter; converted from elemental molyb		4.406826836			0.016097998
BOIL	7440-22-4	Silver and compounds	0.00%	0.000000985			lb/MMBtu	Boiler - Wood - All Boiler Configurations w/Wet Scrubber		1.3978332			0.00510624
BOIL	7440-28-0	Thallium and compounds	0.00%	0.00000185			lb/MMBtu	Boiler - Wood - All Boiler Configurations w/Wet Scrubber		2.625372			0.0095904
TSDHT1	106-99-0	1,3-Butadiene	0.00%	0.0148			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0592			0.00127872
TSDHT1	75-07-0	Acetaldehyde	0.00%	0.3506			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		1.4024			0.03029184
TSDHT1	107-02-8	Acrolein	0.00%	0.3506			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		1.4024			0.03029184
TSDHT1	7664-41-7	Ammonia	0.00%	0.8			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		3.2			0.06912
TSDHT1	7440-38-2	Arsenic and compounds	0.00%	0.0016			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0064			0.00013824
TSDHT1	71-43-2	Benzene	0.00%	0.0044			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0176			0.00038016
TSDHT1	50-32-8	Benzo[a]pyrene	0.00%	0.0000352			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0001408			3.04128E-06
TSDHT1	7440-43-9	Cadmium and compounds	0.00%	0.0015			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.006			0.0001296
TSDHT1	18540-29-9	Chromium VI, chromate and dichromate partic	0.00%	0.0001			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0004			0.00000864
TSDHT1	7440-50-8	Copper and compounds	0.00%	0.0041			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0164			0.00035424
TSDHT1	100-41-4	Ethyl benzene	0.00%	0.0002			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0008			0.00001728
TSDHT1	50-00-0	Formaldehyde	0.00%	0.3506			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		1.4024			0.03029184
TSDHT1	110-54-3	Hexane	0.00%	0.0035			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.014			0.0003024
TSDHT1	7647-01-0	Hydrochloric acid	0.00%	0.1863			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.7452			0.01609632
TSDHT1	7439-92-1	Lead and compounds	0.00%	0.0083			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0332			0.00071712
TSDHT1	7439-96-5	Manganese and compounds	0.00%	0.0031			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0124			0.00026784
TSDHT1	7439-97-6	Mercury and compounds	0.00%	0.002			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.008			0.0001728
TSDHT1	91-20-3	Naphthalene	0.00%	0.0053			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0212			0.00045792
TSDHT1	365	Nickel compounds, insoluble	0.00%	0.0039			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0156			0.00033696
TSDHT1	401	Polycyclic aromatic hydrocarbons (PAHs)	0.00%	0.0445			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.178			0.0038448
TSDHT1	7782-49-2	Selenium and compounds	0.00%	0.0022			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0088			0.00019008
TSDHT1	108-88-3	Toluene	0.00%	0.0044			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0176			0.00038016
TSDHT1	1330-20-7	Xylene (mixture), including m-xylene, o-xylene	0.00%	0.0016			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0064			0.00013824
TSDHT2	106-99-0	1,3-Butadiene	0.00%	0.0148			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0592			0.0014208
TSDHT2	75-07-0	Acetaldehyde	0.00%	0.3506			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		1.4024			0.0336576
TSDHT2	107-02-8	Acrolein	0.00%	0.3506			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		1.4024			0.0336576
TSDHT2	7664-41-7	Ammonia	0.00%	0.8			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		3.2			0.0768
TSDHT2	7440-38-2	Arsenic and compounds	0.00%	0.0016			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0064			0.0001536
TSDHT2	71-43-2	Benzene	0.00%	0.0044			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0176			0.0004224
TSDHT2	50-32-8	Benzo[a]pyrene	0.00%	0.0000352			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0001408			3.3792E-06
TSDHT2	7440-43-9	Cadmium and compounds	0.00%	0.0015			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.006			0.000144
TSDHT2	18540-29-9	Chromium VI, chromate and dichromate partic	0.00%	0.0001			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0004			0.0000096
TSDHT2	7440-50-8	Copper and compounds	0.00%	0.0041			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0164			0.0003936
TSDHT2	100-41-4	Ethyl benzene	0.00%	0.0002			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0008			0.0000192
TSDHT2	50-00-0	Formaldehyde	0.00%	0.3506			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		1.4024			0.0336576
TSDHT2	110-54-3	Hexane	0.00%	0.0035			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.014			0.000336
TSDHT2	7647-01-0	Hydrochloric acid	0.00%	0.1863			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.7452			0.0178848
TSDHT2	7439-92-1	Lead and compounds	0.00%	0.0083			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0332			0.0007968
TSDHT2	7439-96-5	Manganese and compounds	0.00%	0.0031			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0124			0.0002976
TSDHT2	7439-97-6	Mercury and compounds	0.00%	0.002			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.008			0.000192
TSDHT2	91-20-3	Naphthalene	0.00%	0.0053			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0212			0.0005088
TSDHT2	365	Nickel compounds, insoluble	0.00%	0.0039			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0156			0.0003744
TSDHT2	401	Polycyclic aromatic hydrocarbons (PAHs)	0.00%	0.0445			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.178			0.004272
TSDHT2	7782-49-2	Selenium and compounds	0.00%	0.0022			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0088			0.0002112
TSDHT2	108-88-3	Toluene	0.00%	0.0044			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0176			0.0004224
TSDHT2	1330-20-7	Xylene (mixture), including m-xylene, o-xylene	0.00%	0.0016			lb/Mgal	2024 DEQ Combustion Tool for Diesel External Combustion		0.0064			0.0001536
ASH1	7440-38-2	Arsenic and compounds	0.00%	2.9155E-09			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		3.64438E-06			1.02043E-08
ASH1	7440-43-9	Cadmium and compounds	0.00%	3.29E-10			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		4.1125E-07			1.1515E-09
ASH1	7439-92-1	Lead and compounds	0.00%	4.13E-08			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		0.000051625			1.4455E-07
ASH1	365	Nickel compounds, insoluble	0.00%	3.167E-08			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		3.95875E-05			1.10845E-07
ASH2	7440-38-2	Arsenic and compounds	0.00%	1.86029E-07	1.44108E-06		lb/ton	Using AP-42 Table 13.2.4, Eq 1, metals from analytical		0.002325536			5.04376E-06
ASH2	7440-43-9	Cadmium and compounds	0.00%	2.09925E-08	1.62618E-07		lb/ton	Using AP-42 Table 13.2.4, Eq 1, metals from analytical		2.62406E-05			5.69164E-07
ASH2	7439-92-1	Lead and compounds	0.00%	2.63522E-06	2.04138E-05		lb/ton	Using AP-42 Table 13.2.4, Eq 1, metals from analytical		0.003294028			7.14483E-05
ASH2	365	Nickel compounds, insoluble	0.00%	2.02076E-06	1.56539E-05		lb/ton	Using AP-42 Table 13.2.4, Eq 1, metals from analytical		0.002525953			5.47885E-05
ASH3	7440-38-2	Arsenic and compounds	0.00%	2.9155E-09			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		3.64438E-06			1.02043E-08
ASH3	7440-43-9	Cadmium and compounds	0.00%	3.29E-10			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		4.1125E-07			1.1515E-09
ASH3	7439-92-1	Lead and compounds	0.00%	4.13E-08			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		0.000051625			1.4455E-07
ASH3	365	Nickel compounds, insoluble	0.00%	3.167E-08			lb/ton	Using AP-42 Table 11.19.2-2, conveyor transfer point, metals from ana		3.95875E-05			1.10845E-07
WELD-71T	18540-29-9	Chromium VI, chromate and dichromate partic	0.00%	0.002			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.0009			0.000072
WELD-71T	7440-48-4	Cobalt and compounds	0.00%	0.001			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.00045			0.000036
WELD-71T	7439-96-5	Manganese and compounds	0.00%	0.662			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.2979			0.023832
WELD-71T	365	Nickel compounds, insoluble	0.00%	0.004			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.0018			0.000144
WELD-7018	7440-48-4	Cobalt and compounds	0.00%	0.001			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.001			0.000032
WELD-7018	7439-96-5	Manganese and compounds	0.00%	1.03			lb/Mlb wire	DEQ Welding Emission Factor Tool		1.03			0.03296
WELD-7018	365	Nickel compounds, insoluble	0.00%	0.002			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.002			0.000064
WELD-70S-6	7440-48-4	Cobalt and compounds	0.00%	0.001			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.00076			0.000035
WELD-70S-6	7439-96-5	Manganese and compounds	0.00%	0.318			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.24168			0.01113
WELD-70S-6	365	Nickel compounds, insoluble	0.00%	0.001			lb/Mlb wire	DEQ Welding Emission Factor Tool		0.00076			0.000035
PLASMAT	7439-96-5	Manganese and compounds	0.00%	0.022245861	0.026976074		lb/hr cut	Bromsen et al, 1994, "Emission of Fume, Nitrogen Oxides and Noise i		5.005318809			0.03372093
PLASMAT	7440-50-8	Copper and compounds	0.00%	0.003114421	0.00377665		lb/hr cut	Bromsen et al, 1994, "Emission of Fume, Nitrogen Oxides and Noise i		0.700744633			0.004720813
PLASMAH	7439-96-5	Manganese and compounds	0.00%	0.222458614	0.269760743		lb/hr cut	Bromsen et al, 1994, "Emission of Fume, Nitrogen Oxides and Noise i		50.05318809			0.337200928
PLASMAH	7440-50-8	Copper and compounds	0.00%	0.031144206	0.037766504		lb/hr cut	Bromsen et al, 1994, "Emission of Fume, Nitrogen Oxides and Noise i		7.007446333			0.04720813
TORCH	7439-96-5	Manganese and compounds	0.00%	0.0006			lb/hr cut	Versar, "Title V Applicability Workbook", for Institute of Scrap Recyclin		0.36			0.0018
TORCH	7440-50-8	Copper and compounds	0.00%	0.00015			lb/hr cut	Versar, "Title V Applicability Workbook", for Institute of Scrap Recyclin		0.09			0.00045
TORCH	7440-02-0	Nickel and compounds	0.00%	0.00006			lb/hr cut	Versar, "Title V Applicability Workbook", for Institute of Scrap Recyclin		0.036			0.00018
TORCH	18540-29-9	Chromium VI, chromate and dichromate partic	0.00%	0.0000075			lb/hr cut	Versar, "Title V Applicability Workbook", for Institute of Scrap Recyclin		0.0045			0.0000225

INSTRUCTIONS:
- **Toxic Emissions Unit and Stack/Fugitive ID**: use IDs consistent with permit identifiers if applicable.
- **Emission Units or Activity Description:** where possible, maintain consistency with permitted/reported Units/Type.
- **Material Name:** this is the commercial name that is provided on the manufacturer's SDS.
- **Material Waste:** this category should be used to account for all waste material shipped off-site, lost to drain, or incorporated into product.
- **Max Daily Activity:** for semi-continuous/batch processes this value should account for co-occurring activities, process and/or maintenance, that would account for the potential maximum emissions activities for this pollutant.
  - **Actual:** values should be based on the last full year reported to DEQ, or estimates of normal activity (new sources).
  - **Capacity:** maximum activity value achievable with 100% operational up-time for this activity.
  - **Requested PTE:** values that a source is requesting to be permitted on that differ from "Actuals" and "Capacity".

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Emissions Unit/Product Information				Stack/Fugitive Information		Material Usage						Material Waste					
						Annual - Chronic [lb/year]			Max Daily - Acute [lb/day]			Annual - Chronic [lb/year]			Max Daily - Acute [lb/day]		
Toxics Emissions Unit ID	Emission Unit or Activity Description	Material Name	Manufacturer	Emission Type (e.g. Point or Fugitive)	Stack or Fugitive ID	Actual	Requested PTE	Capacity	Actual	Requested PTE	Capacity	Actual	Requested PTE	Capacity	Actual	Requested PTE	Capacity
TEU-Booth	**Widget Paint Booth - atomizer spray guns (EXAMPLE)**	**Widget Paint-A**	**Widget Paint Co.**	**Point**	**ST-4**	**12,000**	**14,000**	**20,000**	**36**	**40**	**52**	**2000**	**2600**	**5000**	**5**	**7**	**14**
TEU-Booth	**Widget Paint Booth - atomizer spray guns (EXAMPLE)**	**Widget Paint-B**	**Widget Paint Co.**	**Point**	**ST-4**	**950**	**1200**	**1500**	**5**	**10**	**15**	**15**	**30**	**40**	**0.5**	**1**	**2**
INKS	Ink Marking	IC-234BK	Domino	Fugitive	INKS	83.65	283.56		0.42	2.8356							
INKS	Ink Marking	IR-234BK	Domino	Fugitive	INKS	68.98	187.65		0.35	1.8765							
INKS	Ink Marking	MC-234BK	Domino	Fugitive	INKS	209.5	667.2		1.06	6.672							
INKS	Ink Marking	WL-200 Wash	Domino	Fugitive	INKS	1.73	333.6		0.009	3.336							
EXEMPT TEU	Miscellaneous Chemical Usage																

INSTRUCTIONS:

- **Material Name**: must be consistent with **Material Name** on "*Material Balance Activities*" worksheet *Column C*.
- **CAS or DEQ ID**: either use the drop-down provided or simply cut and paste each pollutant CAS number or DEQ ID (see the DEQ Pollutant List worksheet) emitted by the referenced TEU.
- **Chemical Name:** if a CAS number or DEQ ID is entered in *Column C, Column D* should perform a lookup from the DEQ Air Toxics list; alternatively, simply cut and paste the chemical names that correspond to the CAS numbers/DEQ ID in *Column C* if applicable.
- **Control Efficiency:** enter the pollutant specific control efficiency - this should include all capture and removal process efficiencies applicable to each individual pollutant.
- **Percent Composition:** provide raw percent composition values for the pollutant as reported by supporting manufacturer documentation.
- **Reference/Notes:** provide references and notes for control efficiencies and/or any adjustments applied to material usage data via **Material Waste** (*Columns M-R*) on the "*Material Balance Activities*" worksheet.
- **Calculated Emissions:** follow guidance in "*Form Instructions*" worksheet for specific formulas.

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Toxics Emissions Unit ID	Material Name	Pollutant Information		Emissions Data			Calculated Emissions					
							Annual Emissions - Chronic [lb/yr]			Total Daily Emissions - Acute [lb/day]		
		CAS or DEQ ID	Chemical Name	Control Efficiency	Percent Composition	Reference/Notes	Actual	Requested PTE	Capacity	Actual	Requested PTE	Capacity
TEU-BOOTH	**Widget Paint-A**	**67-56-1**	**Methanol**	**0.00%**	**35.00%**		**3500**	**3990**	**5250**	**10.85**	**11.55**	**13.3**
TEU-BOOTH	**Widget Paint-A**	**100-40-3**	**4-Vinylcyclohexene**	**0.00%**	**48.00%**		**4800**	**5472**	**7200**	**14.88**	**15.84**	**18.24**
TEU-BOOTH	**Widget Paint-A**	**18540-29-9**	**Chromium VI, chromate and dichromate particulate**	**99.72%**	**5.00%**	**Includes Transfer Efficiency (72%) and Filter Reme**	**1.4**	**1.596**	**2.1**	**0.00434**	**0.00462**	**0.00532**
TEU-BOOTH	**Widget Paint-B**	**90-43-7**	**2-Phenylphenol**	**0.00%**	**0.50%**		**4.675**	**5.85**	**7.3**	**0.0225**	**0.045**	**0.065**
TEU-BOOTH	**Widget Paint-B**	**50-00-0**	**Formaldehyde**	**0.00%**	**70.00%**		**654.5**	**819**	**1022**	**3.15**	**6.3**	**9.1**
TEU-BOOTH	**Widget Paint-B**	**7440-36-0**	**Antimony and compounds**	**99.72%**	**5.00%**	**Includes Transfer Efficiency (72%) and Filter Reme**	**0.1309**	**0.1638**	**0.2044**	**0.00063**	**0.00126**	**0.00182**
INKS	IC-234BK	78-93-3	2-Butanone (methyl ethyl ketone)	0.00%	75.00%	SDS		212.67			2.1267	
INKS	IC-234BK	67-63-0	Isopropyl alcohol	0.00%	2.95%	SDS		8.36502			0.0836502	
INKS	IR-234BK	78-93-3	2-Butanone (methyl ethyl ketone)	0.00%	77.45%	SDS		145.334925			1.45334925	
INKS	IR-234BK	67-63-0	Isopropyl alcohol	0.00%	3.00%	SDS		5.6295			0.056295	
INKS	MC-234BK	78-93-3	2-Butanone (methyl ethyl ketone)	0.00%	95.00%	SDS		633.84			6.3384	
INKS	MC-234BK	67-63-0	Isopropyl alcohol	0.00%	3.00%	SDS		20.016			0.20016	
INKS	WL-200 Wash	78-93-3	2-Butanone (methyl ethyl ketone)	0.00%	100.00%	SDS		333.6			3.336	

Form AQ523

CATEGORICALLY EXEMPT TOXICS EMISSIONS UNITS **ANSWER SHEET**

Facility name: Hampton Lumber Mills, Inc. dba Tillamook Lumber Company Permit Number: 29-0007-TV-01

Indicate which of the following categorically exempt activities occur at this facility by checking the appropriate columns below. Submit this form electronically with your Cleaner Air Oregon (CAO) Emissions Inventory AQ520 form to meet the reporting requirements in OAR 340-245-0040(4)(a)(A) for categorically exempt Toxics Emissions Units (TEUs). This form is the complete list of categorically exempt TEUs, which can be found in the division 245 rules under OAR 340-245-0060(3)(b).

Yes	No	Categorically Exempt TEU Activities
☑	☐	Evaporative and tail pipe emissions from on-site motor vehicle operation.
☐	☑	Distillate oil, kerosene, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified does not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source's expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically exempt with the remainder not designated as an exempt TEU. The following equipment may never be included as part of the exempt TEU: A. Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour; and B. Any individual natural gas or propane burning equipment with a rating greater than 2.0 million Btu/hour.
☑	☐	Distillate oil, kerosene, gasoline, natural gas or propane burning equipment brought on site for six months or less for maintenance, construction or similar purposes, such as but not limited to generators, pumps, hot water pressure washers and space heaters, provided that any such equipment that performs the same function as the permanent equipment, must be operated within the source's existing PSEL.
☑	☐	Office activities.
☑	☐	Food service activities.
☑	☐	Janitorial activities.
☑	☐	Personal care activities.
☑	☐	Grounds keeping activities, including, but not limited to building painting and road and parking lot maintenance.
☑	☐	On-site laundry activities.
☑	☐	On-site recreation facilities.
☑	☐	Instrument calibration.
☑	☐	Automotive storage garages.

☑	☐	Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems.
☑	☐	Temporary construction activities.
☑	☐	Warehouse activities.
☑	☐	Accidental fires and fire suppression.
☑	☐	Air vents from compressors.
☑	☐	Air purification systems.
☑	☐	Continuous emissions monitoring lines.
☑	☐	Demineralized water tanks.
☑	☐	Pre-treatment of municipal water, including use of deionized water purification systems.
☑	☐	Electrical charging stations.
☑	☐	Fire brigade training.
☑	☐	Instrument air dryers and distribution.
☐	☑	Fully enclosed process raw water filtration systems.
☑	☐	Electric motors.
☑	☐	Pressurized tanks containing gaseous compounds that do not contain toxic air contaminants.
☐	☑	Vacuum sheet stacker vents.
☑	☐	Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities.
☐	☑	Log ponds.
☑	☐	Stormwater settling basins.
☑	☐	Paved roads and paved parking lots within an urban growth boundary.
☑	☐	Hazardous air pollutant emissions in fugitive dust from paved and unpaved roads except for those sources that have processes or activities that contribute to the deposition and entrainment of hazardous air pollutants from surface soils.
☑	☐	Health, safety, and emergency response activities.
☑	☐	Non-diesel, compression ignition emergency generators* and pumps used only during loss of primary equipment or utility service due to circumstances beyond the

		reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all the stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically exempt. ***All spark ignition engines remain exempt.** Propane SI Emergency Generator
☑	☐	Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems.
☑	☐	Non-contact steam condensate flash tanks.
☑	☐	Non-contact steam vents on condensate receivers, deaerators and similar equipment.
☑	☐	Boiler blowdown tanks.
☐	☑	Ash piles maintained in a wetted condition and associated handling systems and activities.