Advanced Materials for a Cleaner World
Hollingsworth & Vose

October 27, 2023

Julia DeGagné
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Response to letter dated September 29, 2023

Dear Julia:

Hollingsworth & Vose Fiber Company (H&V) received your letter dated September 29, 2023 (the Letter) relating to the following Cleaner Air Oregon (CAO) deliverables: emissions inventory approved by DEQ on June 13, 2023 (the Inventory), CAO modeling protocol submitted on July 13, 2023 (the Modeling Protocol), and the CAO risk assessment work plan (the Work Plan) submitted on August 10, 2023. H&V and Maul Foster & Alongi, Inc. (MFA) have prepared the following responses, due October 30, 2023. This response document is organized in the same manner as the information was requested in the Letter. The Letter comments are shown in bold followed by the response.

To address the requests of the DEQ in the Letter, MFA has prepared revised versions of all CAO deliverables. MFA has prepared two versions of the revised CAO emissions inventory and AQ520 form. The first version (Attachment A) includes all information and, as required by Oregon Administrative Rules (OAR) 340-214-0130, each page containing Confidential Business Information (CBI) is prominently marked as “Confidential Business Information – Do Not Release to Public.” This version should not be released to the public. The other version (Attachment B) has all of the CBI redacted and is, therefore, suitable for public distribution. Both versions of the AQ520 forms (CBI and redacted) will be provided electronically to the DEQ. Revised versions of the CAO modeling protocol and risk assessment work plan are included as Attachments C and D, respectively.

H&V is requesting that portions of our response relating to certain proprietary raw material usage rates as well as Attachment A (in its entirety) be protected as confidential and exempt from public disclosure pursuant to OAR 340-214-0130 and Oregon Revised Statues (ORS) 192.501(2). The pages of the materials eligible for this exemption from disclosure have been clearly marked with the words: **Confidential Business Information--Do Not Release to Public**. Consistent with the requirements in OAR 340-214-0130(3), these data (a) cannot be patented; (b) are known only to a limited number of individuals within H&V and the company makes efforts to maintain the secrecy of the information; (c) are information that derives significant economic value from not being disclosed to other persons; (d) provide H&V the

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chance to obtain and maintain a business advantage over its competitors which lack the information; and (e) do not constitute “emissions data” as that term is defined by state law. In short, the source, brand, and composition of the raw materials are at the core of H&V’s highly competitive business and the disclosure of these data would have a profound negative impact upon H&V’s ability to do business. Therefore, these data are precisely the type of trade secret information that ORS 192.501(2) and OAR 340-214-0130 are intended to protect. If the DEQ is unable or unwilling to exempt these data from public disclosure, we request that all copies of the data be returned to H&V immediately and we will work with you to provide the information you need by another means.

1. Submit the following additional information:

a. Documentation to support H&V’s request that maintenance shop activities, including “a small amount of welding and use of various lubricants and greases,” be designated as an Exempt TEU [toxic emission unit] under OAR 340-245-0060(3)(a). Documentation should include, but may not be limited to, Safety Data Sheets for all products used, past usage data, assumptions used to determine maximum potential usage rates, and any calculations used to compare usages against the thresholds listed in DEQ’s Cleaner Air Oregon Exempt TEU Reporting document. DEQ will review this information before making a determination on the Exempt status of this TEU.

H&V operates a small maintenance shop for periodic maintenance and repair of process equipment. Activities include welding and use of various products such as lubricants, greases, and parts cleaners. As discussed below, both welding usage and product usage are below reporting thresholds set by the DEQ, and the maintenance shop is an Exempt TEU.

Maintenance engages in various types of welding including flux core arc welding (FCAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), and shielded metal arc welding (SMAW). A conservative annual usage was developed by assuming half the total purchase records over a three-year period between 2019 and 2022. All welding rod usage is below thresholds set by the DEQ in Appendix B of the CAO Exempt TEU Reporting document. Threshold calculations for welding rod use are included in Table 1 of Attachment E.

Chemical content of products used in the maintenance shop was determined by review of the product safety data sheets (SDSs). This review identified one product containing a toxic air contaminant (TAC). However, as the TAC containing product is a non-aerosol lubricant and the TAC of concern is non-volatile, there is no route for emission to atmosphere of the TAC through intended product use and, therefore, no threshold analysis was conducted for this product. Table 2 of Attachment E includes the chemical content analysis for maintenance shop products and product SDSs are included in Attachment F.

b. An updated version of the redacted Inventory supporting documentation (Attachment 2 of the May 26, 2023 Inventory submittal), correcting the discrepancies noted in DEQ's June 13, 2023 Inventory approval letter: the "percent off-specification make-up" for some raw materials and their corresponding emissions are inconsistent between the unredacted and redacted versions of the supporting documentation PDF files (specifically, see emissions for barium carbonate and zinc oxide in Tables 10, 15, 22, and 28). The unredacted version (Attachment 1 of the submittal) appears to be correct and consistent with the AQ520 form.

Revisions to the CBI and Redacted inventories have been prepared and included as Attachments A and B.

2. Submit the following additional information and revise the Protocol as needed:

a. Describe any potential differences in operating scenarios which may impact the distribution of emissions among the Ceramic Filtration Unit (CFU) stacks. Indicate whether production will always be split evenly among stacks for a given fiber type (Rotary Fine, Rotary Coarse/Ultra Rotary Coarse, and Flameblown), and whether the emissions modeled from each stack represent the maximum potential emissions for that stack. If the emissions in the Protocol do not represent the maximum potential emissions for each stack, revise the Protocol to include these operating scenarios.

Potential to emit (PTE) production rates were developed assuming maximum hourly pull rates by fiber type. Total annual production estimates are based on the total number of positions which produce each fiber type. Table 3-7 of the revised modeling protocol (Attachment C) shows each position's fiber type designation and associated control device. As shown in the table, each CFU controls two positions (with the exception of CFU-112 which is discussed below). Because emissions estimates were developed using production-based emission factors for each fiber type, and production rates for each fiber type are based on maximum production at each position, an even split of production across control devices/stacks for a given fiber type is proposed.

The ultimate purpose of the CAO process is the development of a human health risk assessment. Therefore, in evaluating alternative production scenarios for the purposes of the CAO program, MFA and H&V focused on determining which production scenario would result in the highest risk from the facility. As outlined in the revised risk assessment work plan (Attachment D),

> "risk for a given TAC will be calculated by dividing the maximum predicted model concentration of the TAC by the appropriate RBC [risk-based concentration]. The resulting risk for all TACs will be summed for each TEU at a given exposure location."

As not all TACs have RBCs or an RBC for each risk category, the maximum risk scenario for a given TEU is not necessarily the production scenario which results in the highest TAC emissions. MFA has evaluated risk from the different production scenarios and proposes to incorporate a change to daily facility production to present the most conservative acute risk assessment for the facility.

Alternate Production Scenario – Rotary Coarse (RC)/Ultra Rotary Coarse (URC)

As shown in Table 3-7 of Attachment C, there are a total of ten positions on Lines 1 and 2 which can produce either RC or URC fiber. Emissions for all ten positions were estimated using the production rate for RC fiber and the maximum emission factor between RC And URC. MFA evaluated alternative fiber production scenarios to determine the most conservative risk estimate.

Production of URC fiber is predominantly sent through the former and controlled by CFU-112. CFU-112 is capable of controlling emissions from up to three positions at once. However, this configuration would leave one production position idle, as production positions are routed in pairs to the CFUs. For example, positions L2R4, L2R9, and L2R2 can all be configured to produce URC with emissions routed to CFU-112. However, this would leave position L2R3 and CFU-110 idle. It is therefore the more conservative production scenario to assume two positions produce URC fiber and the remaining eight positions produce RC fiber.

MFA has evaluated risk assuming URC pull rates and URC emission factors assigned to production at L2R4 and L2R9 which exhaust through CFU-112. The remaining eight positions were evaluated assigning RC with TAC emissions estimated using RC pull rates and RC emission factors. Although this scenario results in higher TAC emissions from CFU-112, MFA determined that the more conservative assessment with respect to risk remains the assessment that was proposed in the Modeling Protocol: to estimate TACs from all RC/URC positions assuming RC pull rates and the maximum TAC emission factor between RC and URC. Therefore, the proposed TAC emission estimates for these stacks are unchanged in the revised inventory and modeling protocol.

Alternate Production Scenario – Rotary Fine (RF)/ RC

As shown in Table 3-7 of Attachment C, there are a total of four positions on Line 1 which can produce either RF or RC fiber. In the Inventory, emissions for two positions were estimated assuming the production rate and emission factors for RF fiber and two positions were estimated assuming the production rate for RC fiber and the maximum emission factor between RC and URC. MFA evaluated alternative fiber production scenarios to determine the most conservative risk estimate.

MFA proposes to alter the previously proposed fiber assignment at positions L1R1 and L1R2 (controlled by CFU-105). Daily TAC emission estimates have been revised to reflect all four

RF/RC positions producing RC. This configuration was determined to result in the most conservative acute risk assessment. The annual TAC emission estimates remain unchanged with two of the four positions assigned to RF production.

Note, as RC has a higher hourly production rate, this revision has resulted in an overall increase in both the maximum daily RC and facility-wide fiber production and therefore an increase in TAC emissions from the following TEUs: RC, CFU-RC, and BALING. The decrease in maximum daily RF production also results in a decrease in TAC emissions from the following TEUs: RF and CFU_RF.

b. Describe any potential variation in physical parameters for the CFU stacks due to variable fan speeds or airflow rates, and describe how modeled stack flow rates and velocities were determined.

H&V operates three different sized CFU units: 200, 400, and 600 series; the 200 series being the smallest unit and the 600 series being the largest. The stack parameters proposed in the Modeling Protocol were based on average flow rates for the units from stack testing conducted in 2018. The CFUs are equipped with variable speed fans, however there are minimum operating flow rates necessary to safely operate the production equipment. MFA evaluated available flow rate data from stack test reports and the CEMS systems which operated between 2019 and 2022 to determine representative minimum operating flow rates. The table below shows the grouping of CFU units based on size and the proposed revisions to model flow rates.

Revised CFU Stack Model Flow Rates

CFU Grouping/Series	Control Devices	Model Flow Rate (acfm)	
		Previous	Revised
200	CFU-113	6,263	6,263
400	CFU-101 to CFU-112	20,254	14,000
	CFU-116 to CFU-118	24,610	
600	CFU-114 and CFU-115	28,247	16,500

MFA has selected representative minimum flow rates obtained from review of CEMS data to revise the model flow rates for both the 400 and 600 series CFU units. CFU-113 was not equipped with a CEMS unit and, therefore, MFA proposes to continue to use the minimum flow rate from source testing data as representative. Note, the proposed flow rates for all CFUs reflect conservative assumptions made for risk assessment purposes and do not reflect typical operating conditions.

All proposed model parameters for the CFUs are shown in Table 3-5 of the revised modeling protocol included as Attachment C.

c. Update Table 4-4 and the meteorological data processing (if necessary) to use surface roughness parameters consistent with the existing land use for the 12 sectors surrounding facility's on-site meteorological station, rather than for surface data collected at an airport.

MFA proposes to use surface roughness parameters for the area around the facility's on-site meteorological station. Table 4-4 of the revised modeling protocol (Attachment C) has been updated to reflect this.

d. Update Section 3.4 and Tables 3-1, 3-2, and 3-6 to include a new emission point for fugitive emissions from the packaging area in Glass Plant 2, and apportion emissions from the BALING TEU between GP1_A, GP1_B, and the new emission point based on production rates for Glass Plant 1 and Glass Plant 2. DEQ acknowledges that H&V has asserted in the Protocol that fugitive emissions from baling are exclusive to GP1; however, for consistency with the emission estimates in Inventory (which are based on total facility fiber production), emissions should be apportioned between the two glass plant buildings.

MFA has incorporated the requested updates in the revised modeling protocol. Fugitive emissions from baling activities have been apportioned between the two glass plants based on PTE fiber production in Tables 3-1 and 3-2 of the revised modeling protocol. However, as there is no risk-based concentration for glasswool fibers at this time, no Glass Plant 2 fugitive emission source will be included in the dispersion model. The revised modeling protocol is included as Attachment C.

e. Update Sections 3.1 and 3.11 to indicate that all risk from natural gas combustion for the fiberizers (TEU NG_GP) will be included in source risk for the purpose of determining compliance with RALs [risk action levels].

MFA has included this update in the revised modeling protocol and supporting documents. Natural gas combustion TACs are apportioned based on fiberizer natural gas usage rates. Natural gas combustion from the Forehearth and facility-wide non-production use (TEUs: NG_FH and NG, respectively) are still considered subject to the gas combustion exemption and risk from these sources will be evaluated separately. The revised modeling protocol is included as Attachment C.

f. It is recommended, although not required, that the information on Figure 4-10 be included on Figure 4-6 to illustrate the assigned exposure scenario for each receptor location.

An updated version of Figure 4-6 has been included in the revised modeling protocol in Attachment C.

Advanced Materials for a Cleaner World
Hollingsworth & Vose

Please do not hesitate to contact me at (541) 738-5382 if you have any comments or require additional information.

Sincerely,

Anita Ragan
Environmental Health & Safety Manager

Attachments:
A. CAO Emissions Inventory (Revision 5) – CBI, provided separately
B. CAO Emissions Inventory (Revision 5) – Redacted, provided separately
C. CAO Modeling Protocol (Revision 1), provided separately
D. CAO Risk Assessment Work Plan (Revision 1), provided separately
E. Exempt TEU Analysis
F. Maintenance Shop Product SDS

cc: Cindy Frost, H&V
Mike Eisele, DEQ

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ATTACHMENT E

Exempt TEU Analysis

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Table 1
Exempt TEU Analysis—Maintenance and Repair Shop Welding
Hollingsworth & Vose Fiber Company—Corvallis, OR

Reporting Threshold [1] (lb/yr)	Welding Type	Electrode Type	PTE Annual Usage [2] (lb/yr)	Exceeds Reporting Threshold? [3] (Yes/No)
> 500	FCAW	E70T	--	--
		E71T	2.00	No
	GMAW	E70S	148	No
	GTAW	E70S [4]	5.00	No
	SAW	EM12K	--	--
	SMAW	E6010	--	--
		E6011	--	--
		E6012	--	--
		E6013	--	--
		E7024	--	--
	Total Annual Usage (lb/yr)		**155**	**No**
> 50	FCAW	E110	--	--
	GMAW	E308	--	--
		ER316	--	--
		ERNiCrMo	--	--
		ERNiCu	--	--
	GTAW	ER316 [4]	10.0	No
	SMAW	E7018	25.0	No
		E7028	--	--
		E8018	--	--
		Eni-CI	--	--
		Eni-Cu	--	--
	Total Annual Usage (lb/yr)		**35.0**	**No**
> 0	FCAW	E11018	--	--
		E308	--	--
		E316	--	--
	SMAW	14Mn-4Cr	--	--
		E11018	--	--
		E308	--	--
		E310	--	--
		E316	--	--
		E410	--	--
		E9015	--	--
		E9018	--	--
		ECoCr	--	--
		ENiCrMo	--	--
	Total Annual Usage (lb/yr)		**--**	**No**

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Table 1 (Continued)
Exempt TEU Analysis—Maintenance and Repair Shop Welding
Hollingsworth & Vose Fiber Company—Corvallis, OR

Notes

FCAW = flux core arc welding

GMAW = gas metal arc welding.

GTAW = gas tungsten arc welding.

lb = pound.

PTE = potential to emit.

SAW = submerged arc welding.

SMAW = shielded metal arc welding.

TEU = toxic emission unit.

yr = year.

References

(1) Oregon Department of Environmental Quality "Cleaner Air Oregon Exempt TEU Reporting" (March 21, 2022), see Appendix B.

(2) Information provided by Hollingsworth & Vose Fiber Company. Represents half the total purchase records over a 3-year period.

(3) If the total exceeds a given reporting threshold, then each individual welding type within that reporting threshold category is shown as exceeding the threshold.

(4) Included GTAW welding in same reporting threshold category as GMAW welding of same electrode type per San Diego Air Pollution Control District 'Welding Operations' reporting guidance.

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Table 2
Exempt TEU Analysis—Maintenance and Repair Shop Product Usage
Hollingsworth & Vose Fiber Company—Corvallis, OR

Product	Use	Physical State	Chemical [1]	CAS	TAC? (Yes/No)	Weight Percentage [2] (%)	Usage Reportable? (Yes/No)
A-151 (Aerosol)	Degreaser	Aerosol	Distillates Petroleum Hydrotreated Light	64742-47-8	No	65.0	No [3]
DynaClean	Degreaser	Liquid	Alkyl Ammonium Compound	N/A	No	3.00	No [3]
76 Guardol QLT® Motor Oil 10W-30	Lubricant	Liquid	Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	No	92.5	No [4]
			Non-Hazardous Materials	Various	No	7.50	
			Phenol, (tetrapropenyl) derivatives	74499-35-7	No	0.75	
			Zinc Compounds	7440-66-6	Yes	1.35	
76 Soluble Oil 10	Lubricant	Liquid	Sodium Petroleum Sulfonate	68608-26-4	No	7.50	No [3]
			Lubricant Base Oil (Petroleum)	Various	No	89.0	
			Additives	Proprietary	No	3.50	
76 Turbine Oil 100	Lubricant	Liquid	Lubricant Base Oil (Petroleum)	Various	No	99.5	No [3]
			Additives	Proprietary	No	0.50	
Unax® AW (All Grades)	Lubricant	Liquid	Lubricant Base Oil (Petroleum)	Various	No	99.5	No [3]
			Additives	Proprietary	No	0.50	
Super ATF	Lubricant	Liquid	Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	No	47.5	No [3]
			Other components not contributing to product hazard(s)	Various	No	5.00	
RELTON NEW RAPID TAP CUTTING FLUID	Tapping Fluid	Liquid	Polyether polyol	25322-69-4	No	3.00	No [3]
			Chlorinated paraffin	63449-39-8	No	35.0	
			Heavy mineral oil	64741-96-4	No	42.5	
			Hydrotreated heavy naphthenic petroleum	64742-52-5	No	42.5	
			Calcium sulfonate	61789-86-4	No	7.50	
SPRAYON® RUST BREAKER™ Penetrant	Penetrating Oil	Aerosol	Aliphatic Solvent	64742-47-8	No	82.5	No [3]
			Heavy Paraffinic Oil	64742-65-0	No	17.5	
			Carbon Dioxide	124-38-9	No	1.50	
			Calcium Dinonylnaphthalene Sulfonate	57855-77-3	No	1.50	

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Table 2 (Continued)
Exempt TEU Analysis—Maintenance and Repair Shop Product Usage
Hollingsworth & Vose Fiber Company—Corvallis, OR

Notes

TAC = Toxic Air Contaminant

TEU = toxic emission unit.

References

(1) Information from product SDS.

(2) Information from product SDS. Value represents average of the range.

(3) Product contains no TACs.

(4) Product is a non-aerosol lubricant and the TAC of concern is non-volatile. Product is excluded as there is no route for emission to atmosphere of the TAC through intended product use.

ATTACHMENT F

Maintenance Shop Product SDS

SAFETY DATA SHEET

1. Identification

Product identifier **A-151 (Aerosol)**

Other means of identification

Part Number 04320, C04320

Recommended use A solvent degreaser designed for removing heavy residues from metal and other hard surfaces where reduced flammability, toxicity and environmental impact are concerns.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ITW Pro Brands

Address 4647 Hugh Howell Rd.
Tucker, GA 30084

Country (U.S.A.)
Tel: +1 770-243-8800

In Case of Emergency 1-800-424-9300
1-703-527-3887

Website www.lpslabs.com

E-mail lpssds@itwprobrands.com

Supplier ITW Permatex Canada
1-35 Brownridge Road
Halton Hills, ON, L7G 0C6
Canada
1-800-241-8334

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Aspiration hazard	Category 1
Environmental 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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.

Response IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

Storage Store locked up. Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards Combustible.

Supplemental information None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates Petroleum Hydrotreated Light		64742-47-8	60 - 70

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact No adverse effects due to skin contact are expected.

Eye contact No specific first aid measures noted.

Ingestion Not likely, due to the form of the product.

Most important symptoms/effects, acute and delayed Aspiration may cause pulmonary edema and pneumonitis.

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 chemical 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 In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. 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. Contents under pressure. Pressurized container may explode when exposed to heat or flame. 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. 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. 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. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Scoop up used absorbent into drums or other appropriate container. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

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. 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. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original 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

ACGIH

Components	Type	Value	Form
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	TWA	5 mg/m3	Oil mist

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	TWA	200 mg/m3	Non-aerosol.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Canada - British Columbia OELs: Skin designation

Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	Can be absorbed through the skin.

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 appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

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

Gas.

Form

Aerosol.

Color

Clear water-white.

Odor

Characteristic.

Odor threshold

Not determined

pH

Not available.

Melting point/freezing point	Not available.
Initial boiling point and boiling range	383 °F (195 °C)
Flash point	158.0 °F (70.0 °C) Tag Closed Cup
Evaporation rate	< 0.1 BuAc
Flammability (solid, gas)	Flammable gas.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.6 % Estimated
Flammability limit - upper (%)	20.4 % Estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.1 mm Hg @ 20 °C
Vapor density	6.1 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not soluble in water
Partition coefficient (n-octanol/water)	> 1
Auto-ignition temperature	> 381.2 °F (> 194 °C)
Decomposition temperature	Not available.
Viscosity	< 3 mm^2/s @ 25 °C
Other information	
Explosive properties	Not explosive.
Heat of combustion	> 30 kJ/g
Oxidizing properties	Not oxidizing.
Specific gravity	0.84 - 0.86 @ 20 °C
VOC	0 % per U.S. State and Federal Consumer Product Regulations

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	Heat. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary 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.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways.

Components	Species	Test Results
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 4.5 mg/l, 4 Hours

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 This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

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.

Further information None known.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

A-151 (Aerosol) > 1

Mobility in soil No data available.

Other adverse effects None known.

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. 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

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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

IATA; IMDG; TDG

General information Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug (where provided) is correctly fitted. Ensure valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations Additional information is given in the Safety Data Sheet.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

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)	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
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

Issue date 10-05-2016

Revision date 09-14-2017

Version # 02

Disclaimer ITW Pro Brands 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 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

Teamworks Manufacturing Inc.

DynaClean

1. IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND OF THE COMPANY

Identification of Preparation: DynaClean

Date of Safety Data Sheet: 29 December, 2014

Use of Preparation: Cleaner.

Company Identification: TEAMWORKS MANUFACTURING INC.
#101 10411 178TH STREET
EDMONTON, AB T5S 1R5
OFFICE: 780-443-2923

Company Emergency Telephone Number Emergency Phone: 780-443-2923

2. HAZARD IDENTIFICATION

Not hazardous

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS) :

None.

Signal Word (GHS) :

None

Hazard Statements (GHS) :

None

Precautionary Statements (GHS) :

P262: Do not get in eyes, on skin or on clothing.

P305 + P351: IF IN EYES: Rinse with water for several minutes. Repeat if needed.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Description: Chemical

Ingredient	CAS #	% by Wt	Classification
Alkyl Ammonium Compound Alkoxylated Alcohol Amphoteric Surfactant	HMIRA Registry Number 9037, filed September 26, 2013	1-5	

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If symptoms persist consult physician.

Eye Contact: Remove contacts. Flush with water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Repeat if required. If irritation persists get medical attention.

Skin Contact: Thoroughly wash exposed skin with soap and water. Remove any contaminated clothing and wash before reuse.

Ingestion: Wash out mouth with water. Drink plenty of water. Do not induce vomiting unless directed by medical personal. Never give anything to an unconscious person. Get medical aid.

Notes to Physician: Treatment based on judgment of attending physician.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Flood with water for extinguishing agent. CO2, dry chemical, alcohol resistant foam

Unsuitable extinguishing media: No information available.

Special exposure hazards Thermal decomposition releases irritating gases.

Special safety equipment: Self-contained positive pressure breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe mist.
For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.
For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Ventilate area.
Environmental Precautions
Prevent entry to sewers and public waters.
Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clear up spills immediately with absorbent and dispose of waste safely.
Reference to Other Sections

See Heading 8. Exposure controls and personal protection.

7. HANDLING AND STORAGE

Precautions for safe handling:
Ensure good ventilation/exhaustion at the workplace.
Information about fire - and explosion protection:
Keep respiratory protective device available.
No special measures required.
Conditions for safe storage, including any incompatibilities
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Protect from humidity and water.
Avoid storage near extreme heat, ignition sources or open flame.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
Keep container tightly sealed.

·**Specific end use(s)** No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory protection:	Use local exhaust or dilution ventilation.
Hand protection:	Chemical resistant gloves.
Eye protection:	Safety goggles .
Skin protection:	Use body-covering impervious clothing.
Working hygiene:	Take usual precautions when handling. Workers should wash hands before eating, drinking or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid.	**Specific gravity:**	1.065 g/cm3.
Colour:	Clear light green liquid.	**Solubility in water:**	Soluble.
Odour:	Typical lemon.		
pH:	9.6	**Flash point:**	None
Boiling point/boiling range:	Est 100 C 212 F	**Vapor density:**	Not known

10. STABILITY AND REACTIVITY

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided:
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
Possibility of hazardous reactions
None known
Conditions to avoid
Incompatible agents. Avoid excessive heat for prolonged periods of time. Avoid frost.
Incompatible materials:
Oxidizing agents, acids.

Hazardous decomposition products:
Thermal decomposition or combustion may liberate carbon oxides and other gases or vapours.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
LD/LC50 values relevant for classification
Fatty Alcohol Ethoxylate LD50 (Oral) Rat 2,000 mg/kg

Primary irritant effect:
on the skin: None known..
on the eye: Slight irritation.
Sensitization: No sensitizing effects known.
Additional toxicological information:
None known

12. ECOLOGICAL INFORMATION

Toxicity:
Not classified
Persistence and Degradability Not available
Bioaccumulative Potential
Not available
Mobility in Soil
Not available
Other Adverse Effects
Other Information:
All of the organic components of this product are readily biodegradable.

13. DISPOSAL

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Ecology – Waste Materials: Avoid release to the environment.

14. TRANSPORTATION INFORMATION

Not regulated under TGD or DOT

15. REGULATION

SARA Section Yes
SARA (313) Chemicals Yes
EPA TSCA Inventory Appears.
Canadian DSL Appears.
EINECS Appears.

WHMIS Classification: Class D - Division 2B

HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : B
SDS US (GHS HazCom 2012)

16. OTHER INFORMATION

The manufacturer warrants that this product conforms to its standard specification when used according to direction. To the best of our knowledge the information contained herein is accurate. However we do not assume accuracy or completeness of the information contained herein.

Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

SECTION 1: Identification

Product Identifier: **Guardol QLT® Motor Oil**

Other means of identification: 76 Guardol QLT® Motor Oil 10W-30
76 Guardol QLT® Motor Oil 15W-40

SDS Number: **720210**

Relevant identified uses: Heavy Duty Diesel Engine Oil

Uses Advised Against: All others

24 Hour Emergency Phone Number: CHEMTREC 800-424-9300 (24 Hours)
CANUTEC 613-996-6666
CHEMTREC Mexico 01-800-681-9531

Manufacturer/Supplier:
Phillips 66 Lubricants
P.O. Box 4428
Houston, TX 77210

SDS Information:
Phone: 800-762-0942
Email: SDS@P66.com
URL: www.Phillips66.com

Customer Service:
U.S.: 800-368-7128 or International: 1-832-765-2500
Technical Information: 1-877-445-9198

SECTION 2: Hazard identification

Classified Hazards
H412 -- Hazardous to the aquatic environment, chronic toxicity -- Category 3

Other Hazards
None Known

Label Elements

Harmful to aquatic life with long lasting effects

Avoid release to the environment; Dispose of contents/ container to an approved waste disposal plant

SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration[1]
Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	>85
Non-Hazardous Materials	VARIOUS	<15
Phenol, (tetrapropenyl) derivatives	74499-35-7	0.5 - 1.0

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed: Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea. Dry skin and possible irritation with repeated or prolonged exposure.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

SECTION 5: Firefighting measures

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0

0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

SECTION 7: Handling and storage

Precautions for safe handling: Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very slippery surfaces. Used motor oils have been shown to cause skin cancer in mice after repeated application to the skin without washing. Brief or intermittent skin contact with used motor oil is not expected to cause harm if the oil is thoroughly removed by washing with soap and water. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: Exposure controls/personal protection

Chemical Name	ACGIH	OSHA	Other
Distillates, petroleum, hydrotreated heavy paraffinic	TWA: 5mg/m³ STEL: 10 mg/m³ as Oil Mist, if Generated	TWA: 5mg/m³ as Oil Mist, if Generated	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Amber, Transparent
Physical Form: Liquid
Odor: Petroleum
Odor Threshold: No data
pH: Not applicable
Vapor Density (air=1): >1
Upper Explosive Limits (vol % in air): No data
Lower Explosive Limits (vol % in air): No data
Evaporation Rate (nBuAc=1): <1

Flash Point: > 392 °F / > 200 °C
Test Method: Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
Initial Boiling Point/Range: No data
Vapor Pressure: <1 mm Hg
Partition Coefficient (n-octanol/water) (Kow): No data
Melting/Freezing Point: No data
Auto-ignition Temperature: No data
Decomposition Temperature: No data
Specific Gravity (water=1): 0.876 - 0.885 @ 60ºF (15.6ºC)

Particle Size: Not applicable
Percent Volatile: Negligible
Flammability (solid, gas): Not applicable
Solubility in Water: Negligible

Bulk Density: 7.31 - 7.38 lbs/gal
Viscosity: 11.8 - 15.3 cSt @ 100°C; 77 - 112 cSt @ 40°C
Pour Point: -36 °F / -38 °C

SECTION 10: Stability and reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use, During use in engines, contamination of oil with low levels of hazardous fuel combustion by-products (e.g. polycyclic aromatic hydrocarbons) may occur.

SECTION 11: Toxicological information

Information on Toxicological Effects

Substance / Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Unlikely to be harmful		>5 mg/L (mist, estimated)
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		> 5 g/kg (estimated)

Aspiration Hazard:

Skin Corrosion/Irritation: Causes mild skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Causes mild eye irritation.

Skin Sensitization: No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

Respiratory Sensitization: No information available.

Specific Target Organ Toxicity (Single Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Repeated Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Carcinogenicity: No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

Germ Cell Mutagenicity: No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

Reproductive Toxicity: No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

Information on Toxicological Effects of Components

Distillates, petroleum, hydrotreated heavy paraffinic

Carcinogenicity: This oil has been highly refined by a variety of processes to reduce aromatics and improve performance characteristics. It meets the IP-346 criteria of less than 3 percent PAH's and is not considered a carcinogen by the International Agency for Research on Cancer.

Phenol, (tetrapropenyl) derivatives

Reproductive Toxicity: This product contains low levels of phenol, (tetrapropenyl) derivatives. Rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation experienced adverse reproductive effects. Pregnant rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation gave birth to pups with cleft palate and skeletal malformations at dose levels that caused maternal toxicity. Follow-up studies of phenol, (tetrapropenyl) derivatives in finished lubricating fluids demonstrated a no-observed effect level of 1.78 wt%.

SECTION 12: Ecological information

GHS Classification:
H412 -- Hazardous to the aquatic environment, chronic toxicity -- Category 3
Harmful to aquatic life with long lasting effects.

Toxicity: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Persistence and Degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

Bioaccumulative Potential: Log Kow values measured for the hydrocarbon components of this material are greater than 5.3, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

Mobility in Soil: Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of the hydrocarbon constituents in soil and sediment.

Other adverse effects: None anticipated.

SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle used oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

SECTION 14: Transport information

U.S. Department of Transportation (DOT)

Shipping Description:	*Not regulated*
Note:	*If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)*

International Maritime Dangerous Goods (IMDG)

Shipping Description:	*Not regulated*
Note:	*U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.*

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

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #:	*Not regulated*

Note: *U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24.*

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---

SECTION 15: Regulatory information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration[1]	de minimis
Zinc Compound(s)	1.2 - 1.5	1.0%

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

EPA (CERCLA) Reportable Quantity (in pounds):
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

International Hazard Classification

Canada:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:
none

International Inventories
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

SECTION 16: Other information

Date of Issue:	Previous Issue Date:	SDS Number:	Status:
19-Feb-2015	01-Aug-2013	720210	FINAL

Revised Sections or Basis for Revision:
Identified Hazards (Section 2); Precautionary Statement(s) (Section 2); Composition (Section 3); Toxicological (Section 11); Environmental hazards (Section 12)

Precautionary Statements:
P273 - Avoid release to the environment
P501 - Dispose of contents/ container to an approved waste disposal plant

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:
The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

MATERIAL SAFETY DATA SHEET
76 Soluble Oil 10

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 76 Soluble Oil 10
Product Code: 4781010000
Sap Code:
Intended Use: Industrial oil
Chemical Family: Petroleum hydrocarbon
Responsible Party: Phillips 66 Company
Lubricants Division
P.O. Box 25376
Santa Ana, CA 92799-5376
For Additional MSDSs: 800-762-0942
Technical Information:

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800)424-9300
Others: (703)527-3887 (collect)

California Poison Control System: (800) 356-3129

Health Hazards/Precautionary Measures: Causes eye irritation. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance: Clear brown
Physical Form: Liquid
Odor: Characteristic petroleum

NFPA Hazard Class:

Health: 1 (Slight)
Flammability: 1 (Slight)
Reactivity: 0 (Least)

HMIS Hazard Class

Not Evaluated

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	% VOLUME	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Sodium Petroleum Sulfonate CAS# 68608-26-4	7-8	Not Established		

	% VOLUME	EXPOSURE GUIDELINE

OTHER COMPONENTS

		Limits	Agency	Type
Lubricant Base Oil (Petroleum) CAS# Various	88-90	(See: Oil Mist, If Generated)		
Additives CAS# Proprietary	3-4	Not Established		

REFERENCE **EXPOSURE GUIDELINE**

	Limits	Agency	Type
Oil Mist, If Generated CAS# None	5 mg/m3	ACGIH	TWA
	10 mg/m3	ACGIH	STEL
	5 mg/m3	OSHA	TWA
	2500 mg/m3	NIOSH	IDLH

All components are listed on the TSCA inventory

The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

3. HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Eye irritant. Contact may cause stinging, watering, redness, and swelling.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Cancer: Inadequate data available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information on cutting oils or machining fluids.

Target Organs: No data available for this material.

Developmental: No data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: Move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek medical attention. For direct contact, hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE FIGHTING MEASURES

Flammable Properties:
Flash Point: 309°F/154°C (COC)
OSHA Flammability Class: Not applicable
LEL/UEL%: No Data
Autoignition Temperature: No Data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate

protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or

injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance: Clear brown
Physical State: Liquid
Odor: Characteristic petroleum
pH: Not applicable
Vapor Pressure (mm Hg): <1
Vapor Density (air=1): >1
Boiling Point/Range: >600°F / >316°C
Freezing/Melting Point: No Data
Solubility in Water: Emulsifies
Specific Gravity: 0.92-0.93
Percent Volatile: Negligible
Evaporation Rate (nBuAc=1): <1
Viscosity: 32.8-35.0 cSt @40°C
Bulk Density: 7.67 lbs/gal
Flash Point: 309°F / 154°C (COC)
Flammable/Explosive Limits (%): No Data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents such as chlorine, permanganates, and dichromates.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen and sulfur oxides.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

76 Soluble Oil 10 (CAS# None)

Carcinogenicity: A mortality study sponsored by General Motors and the United Auto Workers suggested a link between cutting oils or machining fluids and various forms of cancer (e.g., esophageal, laryngeal,and rectal) The study evaluated workplace exposures from 1940-1984. Since the composition of these materials has changed substantially since 1940, and because the most notable effects were seen among those with work histories dating back to that time, the relevance of these findings to present-day exposures is uncertain. Cutting oils or machining fluids have not been identified as carcinogens by NTP, IARC, or OSHA.

Lubricant Base Oil (Petroleum) (CAS# Various)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or

OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

Contents should be completely used and containers emptied prior to discard. Rinsate may be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

Note: Not classified as hazardous

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health:	Yes
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

SARA 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

--None--

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

--None Known--

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

EPA (CERCLA) Reportable Quantity:

--None--

16. OTHER INFORMATION

Issue Date: 01/01/02

Previous Issue Date: 11/16/99
Product Code: 4781010000
Revised Sections: None
Previous Product Code: 4781010000
MSDS Number: 4781010000

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

MATERIAL SAFETY DATA SHEET

76 Turbine Oil (All Grades)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	76 Turbine Oil (All Grades)
Synonyms:	76 Turbine Oil 22 76 Turbine Oil 32 76 Turbine Oil 46 76 Turbine Oil 68 76 Turbine Oil 100 76 Turbine Oil 150 76 Turbine Oil 220 76 Turbine Oil 320 76 Turbine Oil 460
Intended Use:	Industrial oil
Chemical Family:	Petroleum Hydrocarbon
Responsible Party:	ConocoPhillips 600 N. Dairy Ashford Houston, Texas 77079-1175
Customer Service:	888-766-7676
Technical Information:	800-435-7761

Emergency Overview

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident Call CHEMTREC:
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

California Poison Control System: (800) 356-3219

Health Hazards/Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance:	Clear yellow to brown
Physical Form:	Liquid
Odor:	Characteristic petroleum

NFPA 704 Hazard Class:

Health:	1 (Slight)
Flammability:	1 (Slight)
Instability:	0 (Least)

2. COMPOSITION / INFORMATION ON INGREDIENTS

NON-HAZARDOUS COMPONENTS					
Component / CAS No:	**Percent (%)**	**ACGIH:**	**OSHA:**	**NIOSH:**	**Other:**
Lubricant Base Oil (Petroleum) VARIOUS	99-100	5mg/m^3 TWA 10 mg/m^3 STEL	5 mg/m^3 TWA	2500 mg/m^3 IDLH	as Oil Mist, if Generated 5 mg/m^3 NOHSC TWA
Additives PROPRIETARY	0-1	NE	NE	NE	NE

The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-83-7; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1%=10,000 PPM.
NE=Not Established

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the digestive tract, nausea, diarrhea. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual components, if any.

Target Organs: No data available for this material.

Developmental: No data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Notes to Physician: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE-FIGHTING MEASURES

Flammable Properties:

Flash Point:	> 410°F / 210°C
Test Method:	Cleveland Open Cup (COC), ASTM D92
OSHA Flammability Class:	Not applicable
LEL%:	No data
UEL%:	No data
Autoignition Temperature:	No data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire. Vapors are heavier than air and can accumulate in low areas.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance:	Clear yellow to brown
Physical Form:	Liquid
Odor:	Characteristic petroleum
Odor Threshold:	No data

pH:	Not applicable
Vapor Pressure (mm Hg):	<1
Vapor Density (air=1):	>1
Boiling Point:	> 555°F / 291°C
Solubility in Water:	Negligible
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.858-0.897
Bulk Density:	7.17-7.42 lbs/gal
Viscosity cSt @ 100°C:	4.30-30.6
Viscosity cSt @ 40°C:	22-460
Percent Volatile:	Negligible
Evaporation Rate (nBuAc=1):	<1
Flash Point:	> 410°F / 210°C
Test Method:	Cleveland Open Cup (COC), ASTM D92
LEL%:	No data
UEL%:	No data
Autoignition Temperature:	No data
Decomposition Temperature:	No data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen and sulfur oxides.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic Data:

Lubricant Base Oil (Petroleum) - CAS: VARIOUS
Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and therefore none are listed as a carcinogen by NTP, IARC, or OSHA.

Acute Data:

Lubricant Base Oil (Petroleum) - CAS: VARIOUS
Dermal LD50 = >2 g/kg
LC50 = No information available
Oral LD50 = >5 g/kg

Additives - CAS: PROPRIETARY
Dermal LD50 = No information available
LC50 = No information available
Oral LD50 = No information available

12. ECOLOGICAL INFORMATION

Not evaluated at this time.

13. DISPOSAL CONSIDERATIONS

This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

Contents should be completely used and containers emptied prior to discard. Rinsate may be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Description: Not Regulated

Note: Material is unregulated unless in container of 3500 gallons or more, then provisions of 49 CFR Part 130 apply for land shipment.

IMDG Shipping Description: Not regulated

ICAO/IATA Shipping Description: Not regulated

15. REGULATORY INFORMATION

U.S. Regulations:

EPA SARA 311/312 (Title III Hazard Categories)

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:
--None Known--

EPA (CERCLA) Reportable Quantity (in pounds):
--None Known--

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372:
-- None Known --

California Proposition 65:
Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):
-- None Known --

Carcinogen Identification:
This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

TSCA:
All components are listed on the TSCA inventory.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Domestic Substances List: Listed
WHMIS Hazard Class:
Not Regulated

16. OTHER INFORMATION

Issue Date:	12-Aug-2005
Previous Issue Date:	23-Jul-2003
Revised Sections or Basis for Revision:	Product name (Section 1) Composition (Section 2) Physical Properties (Section 9)
Previous Product Code:	4624010000
MSDS Code:	722070

Disclaimer of Expressed and implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Unax® AW (All Grades)

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Unax® AW (All Grades)

MSDS Code: 722330

Synonyms:
76 Unax® AW 22
76 Unax® AW 32
76 Unax® AW 46
76 Unax® AW 68
76 Unax® AW 100
76 Unax® AW 150
76 Unax® AW 220
76 Unax® AW 320

Intended Use: Hydraulic Fluid

Responsible Party:
ConocoPhillips Lubricants
600 N. Dairy Ashford
Houston, Texas 77079-1175

Customer Service: 888-766-7676

Technical Information: 800-255-9556

MSDS Information: Internet: http://w3.conocophillips.com/NetMSDS/

Emergency Telephone Numbers:
Chemtrec: 800-424-9300 (24 Hours)
California Poison Control System: 800-356-3219

2. HAZARDS IDENTIFICATION

Emergency Overview

This material is not considered hazardous according to OSHA criteria.

NFPA

Appearance: Clear and bright
Physical Form: Liquid
Odor: Petroleum

Potential Health Effects

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness and a burning sensation. Prolonged or repeated contact can defat the skin, causing drying and cracking of the skin, and possibly dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available on acute toxicity.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the digestive tract, nausea and diarrhea. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

See Section 11 for additional Toxicity Information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS	Concentration (wt %)
Lubricant Base Oil (Petroleum)	VARIOUS	>99
Additives	PROPRIETARY	<1

4. FIRST AID MEASURES

Eye: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

5. FIRE-FIGHTING MEASURES

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done with minimal risk. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements.
Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods for Containment and Clean-Up: Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Conditions for safe storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	ACGIH	OSHA	Other:
Lubricant Base Oil (Petroleum)	TWA: 5mg/m^3 STEL: 10 mg/m^3 as Oil Mist, if generated	TWA: 5 mg/m^3 as Oil Mist, if generated	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Personal Protective Equipment (PPE):

Eye/Face: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the performance of their products. Suggested protective materials: Nitrile.

Respiratory: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (MUC) as directed by regulation or the manufacturer's instructions, in oxygen deficient (less than 19.5 percent oxygen) situations, or other conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Clear and bright
Physical Form:	Liquid
Odor:	Petroleum
Odor Threshold:	No data
pH:	Not applicable
Vapor Pressure:	<1
Vapor Density (air=1):	>1
Boiling Point/Range:	No data
Melting/Freezing Point:	<5°F / <-15°C
Pour Point:	<5°F / <-15°C
Solubility in Water:	Insoluble
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.87 @ 60ºF (15.6ºC)
Bulk Density:	7.3 lbs/gal
Viscosity:	4 - 24 cSt @ 100°C; 22 - 320 cSt @ 40°C
Percent Volatile:	Negligible
Evaporation Rate (nBuAc=1):	<1
Flash Point:	>302°F / >150°C
Test Method:	Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
LEL (vol % in air):	No data
UEL (vol % in air):	No data
Autoignition Temperature:	No data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated conditions of storage and handling.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents, strong acids and strong bases.

Hazardous Decomposition Products: Combustion can yield oxides of carbon, nitrogen, sulfur, phosphorus and zinc.

Hazardous Polymerization: Not known to occur..

11. TOXICOLOGICAL INFORMATION

Chronic Data:

Lubricant Base Oil (Petroleum)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

Acute Data:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Lubricant Base Oil (Petroleum)	>5 g/kg	>2 g/kg	No data

12. ECOLOGICAL INFORMATION

Lubricant oil basestocks are complex mixtures of hydrocarbons (primarily branched chain alkanes and cycloalkanes) ranging in carbon number from C15 to C50. The aromatic hydrocarbon content of these mixtures varies with the severity of the refining process. White oils have negligible levels of aromatic hydrocarbons, whereas significant proportions are found in unrefined basestocks. Olefins are found only at very low concentrations. Volatilization is not significant after release of lubricating oil basestocks to the environment due to the very low vapor pressure of the hydrocarbon constituents. In water, lubricating oil basestocks will float and will spread at a rate that is viscosity dependent. Water solubilities are very low and dispersion occurs mainly from water movement with adsorption by sediment being the major fate process. In soil, lubricating oil basestocks show little mobility and adsorption is the predominant physical process.

Both acute and chronic ecotoxicity studies have been conducted on lubricant base oils. Results indicate that the acute aquatic toxicities to fish, Daphnia, Ceriodaphnia and algal species are above 1000 mg/l using either water accommodated fractions or oil in water dispersions. Since lubricant base oils mainly contain hydrocarbons having carbon numbers in the range C15 to C50, it is predicted that acute toxicity would not be observed with these substances due to low water solubility. Results from chronic toxicity tests show that the no observed effect level (NOEL) usually exceeds 1000 mg/l for lubricant base oils with the overall weight of experimental evidence leading to the conclusion that lubricant base oils do not cause chronic toxicity to fish and invertebrates.

Large volumes spills of lubricant base oils into water will produce a layer of undissolved oil on the water surface that will cause direct physical fouling of organisms and may interfere with surface air exchange resulting in lower levels of dissolved oxygen. Petroleum products have also been associated with causing taint in fish even when the latter are caught in lightly contaminated environments. Highly refined base oils sprayed onto the surface of eggs will result in a failure to hatch.

Extensive experience from laboratory and field trials in a wide range of crops has confirmed that little or no damage is produced as a result of either aerosol exposure or direct application of oil emulsion to the leaves of crop plants. Base oils incorporated into soil have resulted in little or no adverse effects on seed germination and plant growth at contamination rates up to 4%.

13. DISPOSAL CONSIDERATIONS

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Shipping Description: Not regulated
Note: If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)

14. TRANSPORTATION INFORMATION

International Maritime Dangerous Goods (IMDG)
Shipping Description: Not regulated
Note: Federal compliance requirements may apply. See 49 CFR 171.12.

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)
UN/ID #: Not regulated

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---

15. REGULATORY INFORMATION

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)
Acute Health: No
Chronic Health: No
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds):
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

WHMIS Hazard Class
None

National Chemical Inventories:
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

16. OTHER INFORMATION

Issue Date: 08-Jan-2008
Status: Final
Previous Issue Date: 30-Mar-2005
Revised Sections or Basis for Revision: Composition (Section 3)
NFPA ratings (Section 2)
Regulatory information (Section 15)
MSDS Code: 722330

MSDS Legend:
ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service Registry; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Safety Data Sheet

According to Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (GHS)

SECTION 1: Identification

Product Identifier **Super ATF**

Code **LBPH778846**

Other means of identification Phillips 66 Super ATF

Recommended use of the chemical and restrictions on use

Recommended use Automatic Transmission Fluid

Restrictions on use All others

24 Hour Emergency Phone Number CHEMTREC Australia +612 9037 2994
CHEMTREC Global +011 703 527 3887

Details of manufacturer or importer

Manufacturer/Supplier
Phillips 66 Lubricants
P.O. Box 4428
Houston, TX 77210

SDS Information
URL: www.Phillips66.com
Phone: 800-762-0942
Email: SDS@P66.com

Customer Service
Australia: 1300 744 554

Australian Importer
Oil & Energy Pty Ltd
20 Ambitious Link
Bibra Lake WA 6163

Australian Importer
Pacific Petroleum Products
1628 Ipswich Rd
Rocklea QLD 4106

SECTION 2: Hazard identification

Classified Hazards

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS)

Other hazards which do not result in classification

PHNOC: None known

HHNOC: None known

Label elements, including precautionary statements

No classified hazards

SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration[1]
Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	<95
Other components not contributing to product hazard(s)	VARIOUS	<10

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

Description of necessary first aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap

and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation: First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion: First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Symptoms caused by exposure: Inhalation of oil mists or vapours generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea. Prolonged or repeated contact may dry skin and cause irritation.

Medical attention and special treatment: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

SECTION 5: Firefighting measures

Suitable extinguishing equipment: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulphur, nitrogen or phosphorus may also be formed.

Special protective equipment and precautions for fire fighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapours and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

Hazchem code: None

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorised personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorised drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

SECTION 7: Handling and storage

Precautions for safe handling: Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very slippery surfaces. Do not enter confined spaces such as tanks or pits without following proper entry procedures. Do not wear contaminated clothing or shoes.

Conditions for safe storage, including any compatibilities: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to appropriate guidance pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: Exposure controls/personal protection

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Exposure control measures			
Chemical Name	**Australia (HCIS)**	**ACGIH**	**Phillips 66**
Distillates, petroleum, hydrotreated heavy paraffinic	---	TWA-8hr: 5 mg/m^3 STEL: 10 mg/m^3 as Oil Mist, if Generated	

Biological Limit Values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye/face protection is not normally required; however, good industrial hygiene practise suggests the use of eye protection that meets or exceeds EN 166 whenever working with chemicals.

Skin/Hand Protection: The use of skin protection is not normally required; however, good industrial hygiene practise suggests the use of gloves or other appropriate skin protection meeting EN 374 whenever working with chemicals. Suggested protective materials: Nitrile.

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit an approved air purifying respirator equipped with Type A, organic gases and vapours filter (as specified by the manufacturer) in combination with Type P2 - Medium efficiency particle filters may be used. A respiratory protection programme that follows recommendations for the selection, use, care and maintenance of respiratory protective devices in EN 529:2005 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health.

Environmental Exposure Controls: Refer to Sections 6, 7, 12 and 13.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

Appearance:	Red, Transparent
Physical Form:	Liquid
Odour:	Petroleum
Odour Threshold:	Not determined

pH:	Not applicable
Melting/Freezing Point:	Not determined
Initial Boiling Point/Range:	Not determined
Flash Point:	Minimum 157 °C
Evaporation Rate (nBuAc=1):	<1
Flammability (solid, gas):	Not applicable
Upper Explosive Limits (vol % in air):	Not determined
Lower Explosive Limits (vol % in air):	Not determined
Vapour Pressure:	Not determined
Vapour Density	Not determined
Relative Density (water=1):	0.85 - 0.86 @ 60ºF (15.6ºC)
Solubility (ies):	Solubility in water: Negligible
Partition Coefficient (n-octanol/water) (Kow):	Not determined
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	Not determined
Viscosity:	6.8 - 7.7 cSt @ 100°C; 30.0 - 34.0 cSt @ 40°C
Other physical or chemical parameters relevant to health and safety	
Pour Point:	Not determined
Bulk Density:	7.08 - 7.16 lbs/gal

SECTION 10: Stability and reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use.

SECTION 11: Toxicological information

Information on Toxicological Effects

Substance / Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Unlikely to be harmful		>5 mg/L (mist, estimated)
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		> 5 g/kg (estimated)

Skin Corrosion/Irritation: Not expected to be irritating. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Not expected to be irritating.

Skin Sensitisation: No information available on the mixture, however none of the components have been classified for skin sensitisation (or are below the concentration threshold for classification).

Respiratory Sensitisation: No information available.

Germ Cell Mutagenicity: No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

Carcinogenicity: No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

Reproductive Toxicity: No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Single Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Repeated Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Aspiration Hazard: Not expected to be an aspiration hazard

Information on Toxicological Effects of Components

Distillates, petroleum, hydrotreated heavy paraffinic

Carcinogenicity: This oil has been highly refined by a variety of processes to reduce aromatics and improve performance characteristics. It meets the IP-346 criteria of less than 3 percent PAH's and is not considered a carcinogen by the International Agency for Research on Cancer.

SECTION 12: Ecological information

Ecotoxicity: All acute aquatic toxicity studies on samples of lubricant base oils show acute toxicity values greater than 100 mg/L for invertebrates, algae and fish. These tests were carried out on water accommodated fractions and the results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions.

Persistence and Degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

Bioaccumulative Potential: Log Kow values measured for the hydrocarbon components of this material are greater than 5.3, and therefore regarded as having the potential to bioaccumulate. In practise, metabolic processes may reduce bioconcentration.

Mobility in Soil: Volatilisation to air is not expected to be a significant fate process due to the low vapour pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of the hydrocarbon constituents in soil and sediment.

Other adverse effects: None anticipated.

SECTION 13: Disposal considerations

Disposal Recommendations: This material under most intended uses would become "waste oils" due to contamination by physical or chemical impurities. Whenever possible, recycle "waste oils" in accordance with current national and regional provisions.

Empty Containers: Container contents should be completely used and containers emptied prior to discard. Empty drums should be properly sealed and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with applicable regulations.

SECTION 14: Transport information

UN Number: Not regulated
UN proper shipping name: None
Transport hazard class(es): None
Packing Group: None
Environmental Hazards: This product does not meet the ADG/UN/IMDG/IMO criteria of a marine pollutant
Special precautions for user: If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable
Hazchem code: None

SECTION 15: Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
No Poisons Schedule number allocated.

National Pollutant Inventory (NPI)
Not applicable

The Montreal Protocol on Substances that Deplete the Ozone Layer
Not applicable

The Stockholm Convention on Persistent Organic Pollutants
Not applicable

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
Not applicable

Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)
Not applicable

Inventory Status:
All components are listed on the Australian Inventory of Chemical Substances (AICS) or are exempt.

SECTION 16: Other information

Issue Date:	Previous Issue Date:	SDS Number	Status:
02-Aug-2017	None	LBPH778846	FINAL

Revised Sections or Basis for Revision:
New SDS

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); GHS = Globally Harmonized System; HCIS = Hazardous Chemical Information System; IARC = International Agency for Research on Cancer; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NTP = National Toxicology Program; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit;

Disclaimer of Expressed and implied Warranties:
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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.

SAFETY DATA SHEET

S00103

Section 1. Identification

Product name : SPRAYON® RUST BREAKER™ Penetrant

Product code : S00103

Other means of identification : Not available.

Product type : Aerosol.

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

Paint or paint related material.

Manufacturer : SPRAYON PRODUCTS GROUP
101 W. Prospect Avenue
Cleveland, OH 44115

Emergency telephone number of the company : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: (800) 251-2486
Mexico: Not Available

Regulatory Information Telephone Number : US / Canada: (216) 566-2902
Mexico: Not Available

Transportation Emergency Telephone Number : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 84.9% (oral), 84.9% (dermal), 86.4% (inhalation)

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Pressurized container: Do not pierce or burn, even after use.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place. Keep container tightly closed.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Aliphatic Solvent	≥75 - ≤90	64742-47-8
Heavy Paraffinic Oil	≥10 - ≤25	64742-65-0
Carbon Dioxide	≤3	124-38-9
Calcium Dinonylnaphthalene Sulfonate	≤3	57855-77-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Section 4. First aid measures

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Aliphatic Solvent	64742-47-8	**ACGIH TLV (United States, 1/2021). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Heavy Paraffinic Oil	64742-65-0	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. **ACGIH TLV (United States, 1/2021).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2020).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist
Carbon Dioxide	124-38-9	**ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant].** TWA: 5000 ppm 8 hours. TWA: 9000 mg/m³ 8 hours. STEL: 30000 ppm 15 minutes. STEL: 54000 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2020).**

		TWA: 5000 ppm 10 hours. TWA: 9000 mg/m³ 10 hours. STEL: 30000 ppm 15 minutes. STEL: 54000 mg/m³ 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 5000 ppm 8 hours. TWA: 9000 mg/m³ 8 hours.
Calcium Dinonylnaphthalene Sulfonate	57855-77-3	None.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Petroleum refining, hydrotreated light distillate	64742-47-8	**CA British Columbia Provincial (Canada, 1/2021). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.** 8 hrs OEL: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours.
Heavy Paraffinic Oil	64742-65-0	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 5 mg/m³ 8 hours. Form: Mist 15 min OEL: 10 mg/m³ 15 minutes. Form: Mist **CA Quebec Provincial (Canada, 7/2019).** TWAEV: 5 mg/m³ 8 hours. Form: mist STEV: 10 mg/m³ 15 minutes. Form: mist
Ethylene glycol monobutyl ether	111-76-2	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 97 mg/m³ 8 hours. 8 hrs OEL: 20 ppm 8 hours. **CA British Columbia Provincial (Canada, 1/2021).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 6/2019).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 7/2019).** TWAEV: 20 ppm 8 hours. TWAEV: 97 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 30 ppm 15 minutes. TWA: 20 ppm 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
Aliphatic Solvent	64742-47-8	**ACGIH TLV (United States, 1/2021). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Heavy Paraffinic Oil	64742-65-0	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 5 mg/m³ 8 hours. Form: mist

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Section 9. Physical and chemical properties

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: 102°C (215.6°F) [Pensky-Martens Closed Cup]

Evaporation rate : 0.192 (butyl acetate = 1)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Lower: 0.7%
Upper: 6%

Vapor pressure : 101.3 kPa (760 mm Hg)

Relative vapor density : Not available.

Relative density : 0.8

Solubility : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <20.5 mm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 39.037 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Heavy Paraffinic Oil	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Calcium Dinonylnaphthalene Sulfonate	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Calcium Dinonylnaphthalene Sulfonate	Skin - Moderate irritant	Rabbit	-	0.5 Ml	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Aliphatic Solvent	Category 3 Category 3	-	Respiratory tract irritation Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Aliphatic Solvent	Category 2	-	-

Aspiration hazard

Name	Result
Aliphatic Solvent Heavy Paraffinic Oil	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Section 11. Toxicological information

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Aliphatic Solvent	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS
Transport hazard class(es)	2.2 	2.2 	2.2 	2.2 	2.2 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126 Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). **ERG No.** 126 Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	- **ERG No.** 126 Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	- Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	**Emergency schedules** F-D, S-U Dependent upon container size, this product may ship under the Limited Quantity shipping exception.

Section 14. Transport information

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

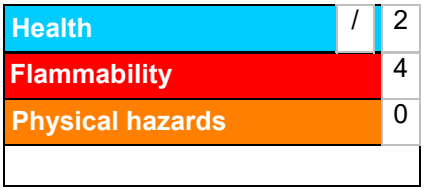
Not applicable.

International regulations

International lists : **Australia inventory (AIIC)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (CSCL): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

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Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.