SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1272/2008 and Regulation (EC) No. 1907/2006 as amended by
Regulation (EU) No. 2020/878

Supersedes date 02-Apr-2024 **Revision date** 07-Aug-2025 **Revision Number** 25

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

1.1. Product identifier

Product Code(s) 1953339M-SG, 1953340M-SG, 1953341M-SG

Product Name Carton Black Plus

Other means of identification

Unique Formula Identifier (UFI) XV9V-SD5N-EF0C-84F0

Pure substance/mixture Mixture

Contains 2-Pyrrolidinone, 1-ethyl-; 2-Pyrrolidinone; Benzisothiazolinone

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

Recommended use ink

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer:
Norwix Inc.
31 Clinton Ave.
Norwich, CT 06360
PH: 860-823-3090
www.norwix.com
For further information, please contact

Distributor:
Signode Canada
16 Cleve Court
Halton Hills, ON L7G0L7
PH: 905-479-9754

1.4. Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300 International Chemtrec: +1 703-527-3887

Emergency Telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 1B - (H360D)

2.2. Label elements

Contains 2-Pyrrolidinone, 1-ethyl-; 2-Pyrrolidinone; Benzisothiazolinone



Signal word
Danger

Hazard statements
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H360D - May damage the unborn child.

Precautionary Statements - EU (§28, 1272/2008)
P201 - Obtain special instructions before use.
P261 - Avoid breathing dust, fume, gas, mist, vapors and spray.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.

Unknown aquatic toxicity
Contains 0 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

May be harmful if swallowed.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
2-Pyrrolidinone, 1-ethyl- 2687-91-4	25 - 50	No data available	220-250-6 (616-208-00-5)	Repr. 1B (H360D) Eye Dam. 1 (H318)	-	-	-
2-Pyrrolidinone 616-45-5	1 - 15	No data available	210-483-1	Eye Irrit. 2 (H319) Repr. 1B (H360)	-	-	-
Modified Carbon Black NOT ASSIGNED	1 - 5	No data available	EEC No. 421-840-8	No data available	-	-	-
Oxirane, methyl-, polymer with oxirane, mono(3,5,5-trimethy	1 - 5	No data available		Aquatic Chronic 3 (H412)	-	-	-

lhexyl) ether 204336-40-3							
Benzisothiazolinone 2634-33-5	0.01 - <0.1	No data available	220-120-9 (613-088-00-6)	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Skin Sens. 1A (H317) Eye Dam. 1 (H318) Acute Tox. 2 (H330) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Skin Sens. 1 :: C>=0.036%	1	1

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
2-Pyrrolidinone, 1-ethyl- 2687-91-4	1350	2000	No data available	No data available	No data available
2-Pyrrolidinone 616-45-5	328	2000	No data available	No data available	No data available
Benzisothiazolinone 2634-33-5	450 + 1020	2000	0.21 +	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information
Remaining components are either not hazardous or below threshold limits.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms Burning sensation. Itching. Rashes. Hives.

Effects of Exposure May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility.

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

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Storage class (TRGS 510) Storage class 6.1C.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
2-Pyrrolidinone, 1-ethyl- 2687-91-4	-	TWA: 5 ppm TWA: 23 mg/m³ Sk*	TWA: 5 ppm TWA: 23 mg/m³ Peak: 10 ppm Peak: 46 mg/m³ Sk*	-	-
Benzisothiazolinone 2634-33-5	-	-	skin sensitizer	-	-

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
2-Pyrrolidinone, 1-ethyl- 2687-91-4	-	-	-	TWA: 23 mg/m³ TWA: 5 ppm STEL: 10 ppm STEL: 46 mg/m³ Sk*	-

Chemical name	Sweden	Switzerland	United Kingdom
2-Pyrrolidinone, 1-ethyl- 2687-91-4	-	TWA: 2 ppm TWA: 9.4 mg/m³ STEL: 4 ppm STEL: 18.8 mg/m³ Sk*	-

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

Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII
2-Pyrrolidinone, 1-ethyl- 2687-91-4	-	-	-	- urine (5-Hydroxy-N-ethyl-2-pyrrolidone (5-HNEP) without hydrolysis) - end

				of shift

Derived No Effect Level (DNEL) - Workers No information available

Chemical name	Oral	Dermal	Inhalation
2-Pyrrolidinone, 1-ethyl- 2687-91-4	-	4 mg/kg bw/day [4] [6]	16.75 mg/m³ [4] [6] 10.05 mg/m³ [5] [6] 20.1 mg/m³ [5] [7]
2-Pyrrolidinone 616-45-5	-	4.2 mg/kg bw/day [4] [6]	29.62 mg/m³ [4] [6]
Triethanolamine 102-71-6	-	7.5 mg/kg bw/day [4] [6] 140 µg/cm2 [5] [6]	1 mg/m³ [5] [6]
Dipropylene glycol 25265-71-8	-	84 mg/kg bw/day [4] [6]	238 mg/m³ [4] [6]
Benzisothiazolinone 2634-33-5	-	0.966 mg/kg bw/day [4] [6]	6.81 mg/m³ [4] [6]

Derived No Effect Level (DNEL) - General Public No information available.

Chemical name	Oral	Dermal	Inhalation
2-Pyrrolidinone, 1-ethyl- 2687-91-4	0.5 mg/kg bw/day [4] [6]	-	1 mg/m³ [4] [6] 1.2 mg/m³ [5] [6] 1.2 mg/m³ [5] [7]
2-Pyrrolidinone 616-45-5	0.67 mg/kg bw/day [4] [6]	-	1.985 mg/m³ [4] [6]
Triethanolamine 102-71-6	3.3 mg/kg bw/day [4] [6]	70 µg/cm2 [5] [6]	0.4 mg/m³ [5] [6]
Dipropylene glycol 25265-71-8	24 mg/kg bw/day [4] [6]	-	70 mg/m³ [4] [6]
Benzisothiazolinone 2634-33-5	-	-	1.2 mg/m³ [4] [6]

Predicted No Effect Concentration (PNEC) No information available.

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
2-Pyrrolidinone 616-45-5	0.5 mg/L	5 mg/L	0.05 mg/L	-	-
Triethanolamine 102-71-6	0.32 mg/L	5.12 mg/L	0.032 mg/L	-	-
Dipropylene glycol 25265-71-8	313 mg/kg food 0.1 mg/L	1 mg/L	313 mg/kg food 0.01 mg/L	-	-
Benzisothiazolinone 2634-33-5	4.03 µg/L	1.1 µg/L	0.403 µg/L	110 ng/L	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
2-Pyrrolidinone 616-45-5	2.17 mg/kg sediment dw	0.217 mg/kg sediment dw	10 mg/L	0.14 mg/kg soil dw	-
Triethanolamine	1.7 mg/kg sediment	0.17 mg/kg	10 mg/L	0.151 mg/kg soil dw	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
102-71-6	dw	sediment dw			
Dipropylene glycol 25265-71-8	0.238 mg/kg sediment dw	0.0238 mg/kg sediment dw	1000 mg/L	0.0253 mg/kg soil dw	-
Benzisothiazolinone 2634-33-5	49.9 µg/kg sediment dw	4.99 µg/kg sediment dw	1.03 mg/L	3 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Black
Color	Black
Odor	Acrylic.
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	> 100.00 °C	Seta Closed Cup
Autoignition temperature	>200	
Decomposition temperature		None known
pH	8 - 10	
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known

Dynamic viscosity	< 15 cps	
Water solubility	No data available	
Solubility(ies)	No data available	
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	0.9 - 1.1	
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

VOC content No data available

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. May cause irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Itching. Rashes. Hives.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,669.10 mg/kg
ATEmix (dermal)	5,720.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-Pyrrolidinone, 1-ethyl-	= 1350 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.1 mg/L (Rat) 4 h
2-Pyrrolidinone	= 328 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 80 ppm (Rat) 8 h
Modified Carbon Black	> 2000 mg/kg	> 2000 mg/kg	-
Benzisothiazolinone	= 1020 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

Respiratory or skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity Classification based on data available for ingredients. May damage fertility or the unborn child.

Chemical name	European Union
2-Pyrrolidinone, 1-ethyl-	Repr. 1B

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
2-Pyrrolidinone, 1-ethyl-	-	LC50: 464 - 999mg/L (96h, Danio rerio)	-	-
2-Pyrrolidinone	EC50: =250mg/L (72h, Desmodesmus subspicatus) EC50: =84mg/L (96h, Desmodesmus subspicatus)	LC50: 4600 - 10000mg/L (96h, Brachydanio rerio)	EC50 = 759 mg/L 30 min EC50 > 10000 mg/L 17 h	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
2-Pyrrolidinone, 1-ethyl-	-0.2
2-Pyrrolidinone	-0.71
Benzisothiazolinone	0.99

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
2-Pyrrolidinone, 1-ethyl-	The substance is not PBT / vPvB PBT assessment does not apply
2-Pyrrolidinone	The substance is not PBT / vPvB PBT assessment does not apply
Benzisothiazolinone	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Other information According to the European Waste Catalog, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not Regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user Special Provisions None
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not Regulated
14.4 Packing group	Not Regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not Regulated
14.4 Packing group	Not Regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

National regulations

Chemical name	French RG number
Benzisothiazolinone - 2634-33-5	RG 65

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
2-Pyrrolidinone, 1-ethyl-	-	-	Development Category 1B

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
2-Pyrrolidinone, 1-ethyl- - 2687-91-4	30 75	-
Benzisothiazolinone - 2634-33-5	75	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Benzisothiazolinone - 2634-33-5	Product-type 2: Disinfectants and algaecides not intended for direct application to humans or animals Product-type 6: Preservatives for products during storage Product-type 9: Fiber, leather, rubber and polymerized materials preservatives Product-type 11: Preservatives for liquid-cooling and processing systems Product-type 12: Slimicides Product-type 13: Working or cutting fluid preservatives

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child
H360D - May damage the unborn child
H400 - Very toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet