



SILVER FERN CHEMICAL

Material Safety Data Sheet

TETRAETHYLENEPENTAMINE

SECTION 1: IDENTIFICATION

Product Name: Tetraethylenepentamine

CAS Number: 112-57-2

Company

Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Suite #C
Seattle WA 98109, USA

Business Contact

Customer Service: 206-282-3376
info@silverfernchemical.com

24 Hour Emergency Contact

Infotrac 800-535-5053
Outside USA & Canada 352-323-3500

SECTION 2: HAZARD IDENTIFICATION

Emergency Overview

Color: Yellow

Physical State: Liquid

Odor: Ammoniacal

Hazards of product:

DANGER! Causes severe eye burns. Causes severe skin burns. Causes burns of the mouth and throat. Harmful if absorbed through skin. May cause allergic skin reaction. Aspiration hazard. Can enter lungs and cause damage. May react with water. Evacuate area. Keep upwind of spill.

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Skin Contact: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. For the major component(s): Classified as corrosive to the skin according to DOT guidelines.

Skin Absorption: Prolonged or widespread skin contact may result in absorption of harmful amounts.

Skin Sensitization: Based on information for component(s): Skin contact may cause an allergic skin reaction. Has caused allergic skin reactions when tested in mice. Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s). The similar material(s) is/are: Ethylenediamine (EDA). Diethylenetriamine. Piperazine Aminoethylpiperazine (AEP). Aminoethylethanolamine (AEEA). Triethylenetetramine (TETA). NHydroxyethylethylenediamine.

Inhalation: Excessive exposure may cause irritation to upper respiratory tract (nose and throat).



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Ingestion: Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration.

Swallowing may result in burns of the mouth and throat.

Aspiration hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Amount
Tetraethylenepentamine mixture	112-57-2	$\geq 92.0 - \leq 98.0 \%$
Triethylenetetramine mixture	112-24-3	$\geq 1.0 - \leq 5.0 \%$
Pentaethylenehexamine mixture	4067-16-7	$\geq 0.5 - \leq 2.0 \%$

CAS# 112-24-3, 112-57-2 and 4067-16-7 are for the linear components of the mixture.

SECTION 4: FIRST AID MEASURES

Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

Skin Contact: Immediate continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Properly dispose of leather items such as shoes, belts, and watchbands. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth to an unconscious person.

Notes to Physician: Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote.

Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Emergency Personnel Protection: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection) If potential for exposure exists refer to Section 8 for specific personal protective equipment.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected



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location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water should be applied in large quantities as fine spray.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Unusual Fire and Explosion Hazards: Heat is generated when product mixes with water. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Small spills: Absorb with materials such as: Sand. Dirt. Milsorb®. Clay. Do NOT use absorbent materials such as: Cellulose. Sawdust. Ground corn cobs. Remove with shovel. Collect in suitable and properly labeled containers. Large spills: Dike area to contain spill. Knock down and dilute vapors with water fog or spray. Collect with vacuum equipment. Ground and bond all containers and handling equipment. Wash the spill site with large quantities of water. See Section 13, Disposal Considerations, for additional information.

Personal Precautions: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Evacuate area. Refer to Section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations.

Environmental Precautions: Dike to prevent contamination of ground and surface water, then transfer into closed containers. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

SECTION 7: HANDLING AND STORAGE

Handling

General Handling: Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated contact with skin. Do not swallow. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Do not use



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sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Storage

Hold bulk storage under nitrogen blanket. Store in the following material(s): Stainless steel. Aluminum. Do not store in: Brass. Bronze. Copper. Copper alloys.

Bulk 6 Months

Metal drums. 18 Months

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Component	List	Type	Value
Triethylenetetramine mixture	WEEL	TWA	6 mg/m ³ 1 ppm SKIN
Tetraethylenepentamine mixture	WEEL	TWA Aerosol.	5 mg/m ³ 1 ppm SKIN, D-SEN
Tetraethylenepentamine mixture	WEEL	DERM SENS	Skin sensitizer.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact.

It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

Personal Protection

Eye/Face Protection: Use chemical goggles. Eye wash fountain should be located in immediate work area.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL").

Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.



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Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Yellow
Odor	Ammoniacal
Odor Threshold	No test data available
Flash Point - Closed Cup	171 °C (340 °F) <i>ASTM D93</i>
Flammability (solid, gas)	No
Flammable Limits In Air Lower:	0.8 %(V) <i>Estimated</i>
Upper:	4.6 %(V) <i>Estimated</i>
Autoignition Temperature	No test data available
Vapor Pressure	< 0.01 mmHg @ 20 °C <i>Literature</i>
Boiling Point (760 mmHg)	288 °C (550 °F) <i>Literature</i> .
Vapor Density (air = 1)	7 <i>Literature</i>
Specific Gravity (H2O = 1)	0.994 20 °C/20 °C <i>Literature</i>
Freezing Point	-46 °C (-51 °F) <i>Literature</i>
Melting Point	Not applicable to liquids
Solubility in Water (by weight)	100 % @ 20 °C <i>Literature</i> Forms solid amine hydrate with time
pH	No test data available
Decomposition Temperature	No test data available
Partition coefficient, noctanol/water (log Pow)	No test data available
Evaporation Rate (Butyl Acetate = 1)	No test data available
Kinematic Viscosity	54.1 mm ² /s @ 25 °C <i>Literature</i>

SECTION 10: STABILITY AND REACTIVITY



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Stability/Instability

Thermally stable at typical use temperatures.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose.

Generation of gas during decomposition can cause pressure in closed systems. Reaction with carbon dioxide may form an amine carbamate. Smoke may be generated depending on vapor pressure of mixture. Product absorbs carbon dioxide from the air.

Incompatible Materials: Heat is generated when mixed with water. Spattering and boiling can occur.

Avoid contact with oxidizing materials. Avoid contact with: Acids. Acrylates. Alcohols. Aldehydes. Halogenated hydrocarbons. Ketones. Nitrites. Avoid contact with metals such as: Brass. Bronze. Copper. Copper alloys. Avoid contact with absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Sawdust.

Hazardous Polymerization

Will not occur.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials.

Decomposition products can include and are not limited to: Ammonia. Ethylenediamine. Volatile amines.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion

Single dose oral LD50 has not been determined.

For the major component(s): LD50, Rat 2,140 - 3,990 mg/kg

For the minor component(s): LD50, Rat 1,080 - 4,340 mg/kg

Skin Absorption

The dermal LD50 has not been determined.

For the major component(s): LD50, Rabbit 660 - 1,260 mg/kg

For the minor component(s): LD50, Rabbit 550 - 1,000 mg/kg

Sensitization

Skin

Based on information for component(s): Skin contact may cause an allergic skin reaction. Has caused allergic skin reactions when tested in mice. Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s). The similar material(s) is/are:

Ethylenediamine (EDA). Diethylenetriamine. Piperazine Aminoethylpiperazine (AEP).

Aminoethylethanolamine (AEEA). Triethylenetetramine (TETA). N-Hydroxyethylethylenediamine.

Repeated Dose Toxicity

For the major component(s): Repeated skin application to laboratory animals did not produce systemic toxicity.

Chronic Toxicity and Carcinogenicity

For the major component(s): Did not cause cancer in laboratory animals.

Genetic Toxicology

For the major component(s): In vitro genetic toxicity studies were positive. For the major component(s): Animal genetic toxicity studies were negative.



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SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

Data for Component: **Tetraethylenepentamine mixture**

Movement & Partitioning

No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henry's Law Constant (H): 8.89E-12 atm*m3/mole; 25 °C Estimated

Partition coefficient, n-octanol/water (log Pow): -3.16 Estimated

Partition coefficient, soil organic carbon/water (Koc): 3.6 - 1,098 Estimated

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
3.16E-10 cm3/s	0.41 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
0 %	28 d	OECD 301A Test
0 %	28 d	OECD 301D Test

Chemical Oxygen Demand: 1.54 - 1.88 mg/mg

Theoretical Oxygen Demand: 3.39 mg/mg

Data for Component: **Triethylenetetramine mixture**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 5.21E-10 atm*m3/mole; 25 °C Estimated

Partition coefficient, n-octanol/water (log Pow): -2.65 Estimated

Partition coefficient, soil organic carbon/water (Koc): 4.1 - 310 Estimated

Persistence and Degradability

Material is not readily biodegradable according to OECD/EC guidelines.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
2.32E-10 cm3/s	0.55 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
0 %	28 d	OECD 302B Test



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Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
5 %		2.5 - 11 %	

Chemical Oxygen Demand: 1.94 mg/mg

Theoretical Oxygen Demand: 3.40 mg/mg

Data for Component: **Pentaethylenehexamine mixture**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is slight (Koc between 2000 and 5000).

Henry's Law Constant (H): 2.56E-27 atm*m3/mole; 25 °C Estimated

Partition coefficient, n-octanol/water (log Pow): -3.67 Estimated

Partition coefficient, soil organic carbon/water (Koc): 3,887 Estimated

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

ECOTOXICITY

Data for Component: **Tetraethylenepentamine mixture**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species tested). May increase pH of aquatic systems to > Ph 10 which may be toxic to aquatic organisms.

Fish Acute & Prolonged Toxicity

LC50, rainbow trout (*Oncorhynchus mykiss*): > 100 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Daphnia magna*: 14.6 mg/l

Aquatic Plant Toxicity

EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), biomass growth inhibition: 2.1 mg/l

Toxicity to Micro-organisms

EC50; activated sludge, respiration inhibition, 1 h: 1,600 mg/l

Data for Component: **Triethylenetetramine mixture**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species tested). May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

Fish Acute & Prolonged Toxicity

LC50, fathead minnow (*Pimephales promelas*): 330 - 495 mg/l

LC50, guppy (*Poecilia reticulata*), static renewal, 96 h: 570 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Daphnia magna*: 12 - 40 mg/l

Aquatic Plant Toxicity

EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), biomass growth inhibition: 3.7 mg/l

Toxicity to Micro-organisms



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EC50; bacteria, Growth inhibition (cell density reduction), 16 h: 680 mg/l

Data for Component: **Pentaethylenehexamine mixture**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, guppy (*Poecilia reticulata*): 180 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Daphnia magna*: 18 mg/l

Aquatic Plant Toxicity

EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), biomass growth inhibition: 0.7 mg/l

SECTION 13: DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Proper Shipping Name: TETRAETHYLENEPENTAMINE

Hazard Class: 8 **ID Number:** UN2320 **Packing Group:** PG III

DOT Bulk

Proper Shipping Name: TETRAETHYLENEPENTAMINE

Hazard Class: 8 **ID Number:** UN2320 **Packing Group:** PG III

IMDG

Proper Shipping Name: TETRAETHYLENEPENTAMINE

Hazard Class: 8 **ID Number:** UN2320 **Packing Group:** PG III

EMS Number: F-A,S-B

ICAO/IATA

Proper Shipping Name: TETRAETHYLENEPENTAMINE



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Hazard Class: 8 **ID Number:** UN2320 **Packing Group:** PG III

Cargo Packing Instruction: 820

Passenger Packing Instruction: 818

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard Yes

Delayed (Chronic) Health Hazard Yes

Fire Hazard No

Reactive Hazard No

Sudden Release of Pressure Hazard No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component CAS # Amount

Tetraethylenepentamine mixture 112-57-2 <= 98.0 %

Triethylenetetramine mixture 112-24-3 <= 5.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

U.S. Toxic Substances Control Act

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA - Domestic Substances List (DSL)



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All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

SECTION 16: OTHER INFORMATION

Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact.

Hazard Rating System

NFPA	Health	Fire	Reactivity
	3	2	0

Recommended Uses and Restrictions

Polyamide resins. Oil additive. Others. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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