MATERIAL SAFETY DATA SHEET

PRODUCT NUMBER: 11 10 62 + 11 10 64

SECTION 1 PRODUCT IDENTIFICATION AND MANUFACTURE

SUPPLIER: METPREP LTD.
CURRIERS CLOSE
CHARTER AVENUE
COVENTRY CV4 8AW

TELEPHONE: 024 7642 1222
FAX: 024 7642 1192

PRODUCT: EPO-SET HARDENER

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

2.1 Classification of the substance or mixture
Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 3, H412

Ingredients of unknown:
toxicity

Ingredients of unknown:
ecotoxicity

SECTION 2: Hazards identification

Classification according to Directive 1999/45/EC [DPD]
The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : C; R34
R43
R52/53
Human health hazards: Causes burns. May cause sensitisation by skin contact.
Environmental hazards: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Additional information: According to Directive 99/45/EC, Article 6, Paragraph 1b, classification derived from direct toxicological testing of the preparation take precedence over classification derived from using the conventional (calculation) method.

See Section 11 for more detailed information on health effects and symptoms.

See Section 16 for the full text of the R phrases or H statements declared above.

2.2 Label elements
Hazard pictograms:

Signal word: Danger
Hazard statements: Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary statements

General: Not applicable.
Prevention: Wear protective gloves: > 8 hours (breakthrough time): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber. Wear eye or face protection. Wear protective clothing. Avoid release to the environment.
Response: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician. IF IN EYES: Immediately call a POISON CENTER or physician.
Storage: Store locked up.
Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients: triethylenetetramine, propoxylated triethylenetetramine
Supplemental label elements: Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings: Not applicable.
Tactile warning of danger: Not applicable.

2.3 Other hazards
Other hazards which do not result in classification: None known.

SECTION 3 Composition/information on ingredients

3.2 Mixtures: Mixture

Product/ingredient Name	Identifiers	%	CLASSIFICATION 67/548/EEC	CLASSIFICATION Regulation (EC) No. 1272/2008 [CLP]	Type
TRIETHYLENETETRAMINE, PROPOXYLATED	CAS: 26950-63-0 EC: 500-055-5	60-100	Xi; R41, R38	Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
Trientine	CAS: 112-24-3 EC: 203-950-6	13-30	Xn; R21/22 C; R34 R43 R52/53	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
			See Section 16 for the full text of the R phrases declared above.	**See Section 16 for the full text of the H statements declared above.**	

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

Type
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

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

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact: Get medical attention immediately. Call a poison center or physician. 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. Chemical burs must be treated promptly by a physician. Bathe the eye with running water for 15 minutes. Consult a doctor.

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to resh 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 breathin apparatus. If not breathin if breathin si irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained prersonnel. It may be dangerous to the person providing aid to give mouth to mouth resuscitation. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48hours.

Skin contact: Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. 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.

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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion: Adverse symptoms may include the following:
stomach pains

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

Notes to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments: Symptomatic treatment and supportive therapy as indicated. Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5 FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: : Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Hazards from the substance or mixture: In a fire or if heated a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any wwaterway, sewer or drain.
Hazards thermal decomposition products: Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides

5.3. Advice for firefighters

Special precautions 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.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. 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. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised 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".

6.2 Environmental precautions:
Avoid dispersal of spilt 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). Water polluting material. May be harmful to the environment if released in large quantities.

6.3. Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. 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.

Large spill Stop leak if without risk. Move containers from spill area. Approach the 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. Dispose of via a licensed waste disposal contractor.
Contaminated absorbent material may pose the same hazard as the spilt product.

6.4. Reference to other sections: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7 HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1. Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

7.2. Conditions for safe storage, including any incompatibilities
Store between the following temperatures: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Storage hazard class Huntsman Advanced Materials: Storage class 8, Corrosive substances

7.3. Specific end use(s

Recommendations : Not available.
Industrial sector specific solutions : Not available.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1. Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
Trientine	DNEL	Short term inhalation	5380 mg/m3	Workers	Systemic
	DNEL	Long term Dermal	0.57 mg/kg bw/day	Workers	Systemic
	DNEL	Long term inhalation	1mg/,3	Workers	Systemic
	DNEL	Long term Dermal	0.028 mg/m3	Workers	Local
	DNEL	Short term Dermal	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term inhalation	1600mg/m3	Workers	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Dermal	1 mg/cm2	Consumers	Local
	DNEL	Short term Dermal	0.25 mg/kg bw/day	Consumers	Local
	DNEL	Long term inhalation	0.29 mg/m3	Consumers	Systemic
	DNEL	Long term Oral	0.41 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Dermal	0.43 mg/cm2	Consumers	Local

Predicted effect concentrations

Product/ingredient name	Type	Compartment Detail	Value	Method detail
Trientine	PNEC	Fresh water	190 ug/L	Assessment Factors
	PNEC	Fresh water sediment	95.9 mg/Kg	Equilibrium Partitioning
	PNEC	Marine	38 ug/L	Assessment Factors
	PNEC	PNEC intermittnet	200 ug/L	Assessment Factors
	PNEC	Marine water sediment	19.2 mg/kg	Equilibrium Partitioning
	PNEC	Soil (agricultural)	19.1 mg/kg	Equilibrium Partitioning
	PNEC	Sewage Treatment Plant	4.25 mg/L	Assessment Factors
	PNEC	Secondary Poisoning	0.18 mg/kg	Assessment Factors

8.2. Exposure controls

Appropriate Engineering controls: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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. Contaminated work clothing should not be allowed out of the workplace. 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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may berequired instead.

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 ecessary.

Material of gloves for long term application (BTT>480min): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber

Material of gloves for short term/splash application (10min <BTT<480min): (BTT = Break Through Time)

Nitrile rubber Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers. Additional information can be found for instance at www.gisbau.de.

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.

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: In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Apperance

Physical state:	Liquid.
Colour:	Clear.
Odour:	Amine-like.
Odour threshold:	Not available.
pH:	12 [Conc. (% w/w): 50%]
Melting point/freezing point:	Not available.
Initial boiling point and boiling range:	>200°C
Flash point:	Closed cup: 152°C [DIN 51758 EN 22719 (Pensky-Martens Closed Cup)]
Evaporation rate:	Not available.
Flammability (solid, gas) :	Not available.
Burning time:	Not applicable.
Burning rate:	Not applicable.
Upper/lower flammability orexplosive limits:	Not available.
Vapour pressure:	0.0001 kPa [room temperature]
Vapour density:	Not available.
Relative density	Not available.
Solubility(ies)	
Water solubility:	miscible 20 deg C
Other:	Miscible in water.
Partition coefficient: n-octanol/water ($LogK_{ow}$) :	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature :	>200°C
Viscosity :	Dynamic (25°C): 365 - 460 mPa·s Kinematic: Not available. Kinematic (40°C): Not available.
Explosive properties:	Not available.
Oxidising properties :	Not available.

9.2. Other information

Density: 1 to 1.05 g/cm³ [25°C (77°F)]

SECTION 10 STABILITY AND REACTIVITY PROPERTIES

10.1. Reactivity

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

10.2. Chemical stability

Chemical stability: The product is stable.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

Conditions to avoid: No specific data.

10.5. Incompatible materials

Materials to avoid: strong acids, strong bases, strong oxidising agents

10.6. Hazardous decomposition products

Haz. decomp. products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Decomposition products may include the following materials:Carbon oxides, Nitrogen oxides, Burning produces obnoxious and toxic fumes.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Product/Ingredient name	Endpoint	Species	Result
TRIETHYLENETETRAMINE, PROPOXYLATED	LD50 Dermal	RAT	>2150 mg/kg
	LD50 Oral	RAT	>4500 mg/kg
TRIETHYLENETETRAMINE, PROPOXYLATED	LD50 Dermal	Rabbit	>1000 mg/kg
	LD50 Oral	RAT	>2000 mg/kg
Trientine	LD50 Dermal	Rabbit-Male, Female	1465.4 mf/kg
	LD50 Oral	RAT-Male, Female	1716.2 mf/kg

Conclusion/Summary: No additional information.

Acute toxicity estimates: Not available.

Irritation/Corrosion

Product/Ingredient name	Test	Species	Route of Exposure	Result
Trientine	OECD405 Acute Eye irritation/corrosion	Rabbit	Skin	Corrosive
	OECD404 Acute Dermal irritation/corrosion	Rabbit	Eyes	Corrosive

Conclusion/Summary

Skin : Trientine Corrosive to the skin
Eyes : Trientine Corrosive to the eyes
Respiratory : No additional information

Sensitiser

Product/Ingredient name	Test	Route of Exposure	Species	Result
TRIETHYLENETETRAMINE, PROPOXYLATED	-	Skin	Guinea pig	Sensitising
Trientine	OECD 406 Skin Sensitization	Skin	Guinea pig	Sensitising

Conclusion/Summary

Skin : No additional information.
Respiratory : No additional information.

Mutagenicity

Product/Ingredient name	Test	Result
Trientine	OECD 482 Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells in vitro	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative

Conclusion/Summary Trientine The weight of the scientific evidence indicates that this material is non-genotoxic.

Carcinogenicity

Product/Ingredient name	Test	Species	Exposure	Result	Route of Exposure
Trientine	OECD 451 Carcinogenicity	Mouse	3 days/wk	Negative	Dermal

Conclusion/Summary: No additional information

Reproductive toxicity

Conclusision/Summary : Trientine In accordance with column 2 of Annex VII – X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

Teratogenicity

Product/Ingredient name	Test	Species	Result/Result type
trientine	OECD 414 Prenatal Developmental Toxicity Study	Rat	>750 mg/kg NOAEL
	OECD 414 Prenatal Developmental Toxicity Study	Rabbit	125 mg/kg NOAEL

Conclusion/Summary: No additional information

Specific target organ toxicity (single exposure) Not available.

Specific target organ toxicity (repeated exposure) Not available.

Aspiration hazard Not available.

Information on the likely routes of exposure Not available.

Potential acute health effects

Inhalation **:**May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : May cause burns to mouth, throat and stomach.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation No specific data.

Ingestion Adverse symptoms may include the following:stomach pains

Skin contact: Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

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

Product/ingredient name	Test	Result type	Result	Target organs
trientine	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	NOAEL -	50 mg/kg/d	lungs

Conclusion/Summary: No additional information

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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.

Other information : Not available.

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result	
Trientine	No official guidelines	Acute EC50	30minutes Static	Bacteria	800	mg/l
	EU EC C.2 Acute Toxicity for Daphnia	Acute EC50	48 hours Static	Daphnia	31.1	g/l
	OECD 201 Alga, Growth Inhibition Test	Acute ErC50 (growth rate)	72 hours Semistatic	Algae	20	mg/l
	EPA OPPTS EPA OTS 797. 1400	Acute LC50	96 hours Static	Fish	330	mg/l
	No official guidelines	Chronic EC10	30 minutes Static	Bacteria	42.5	mg/l
	OECD OECD 202: Part II (Daphnia sp., Reproduction Test	Chronic EC10	21 days Semistatic	Daphnia	1.9	mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic NOECr	72 hours Semistatic	Algae	<2.5	mg/l

Conclusion/Summary: No additional information

12.2 Persistence and degradability

Product/ingredient name	Test	Period	Result
trientine	OECD 302A Inherent Biodegradability: Modified SCAS Test	84 days	20 %
	OECD 301D Ready Biodegradability – Closed Bottle Test	162 days	0 %

Conclusion/Summary: trientine Not biodegradable

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Trientine	-2.65	99	low

12.4. Mobility in soil

Soil/water partition coefficient (KOC): Not available.

Mobility: Not available.

12.5. Results of PBT and vPvB assessment: Not available.

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

12.7 Other ecological information

SECTION 13 DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1. Waste treatment methods

Product

Methonds of disposal : The generation of waste should be avoided or minimised 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 nonrecyclable 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.

Hazardous wasteWaste: Yes

European waste catalogue (EWC)

Waste code	Waste designation
07 02 04*	other organic solvents, washing liquids and mother liquors

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 TRANSPORT INFORMATION

14.1. UN number

ADR/RID, IMDG, IATA UN2259

14.2. UN proper shipping name

ADR/RID, IMDG, IATA **Shipping name:** TRIETHYLENETETRAMINE SOLUTION

14.3. Transport hazard class (es)

ADR/RID, IMDG, IATA **Transport class:** 8

14.4. Packing group

ADR/RID, IMDG, IATA **Packing group:** II

14.5. Environmental hazards

ADR/RID, IMDG, IATA No

14.6. Special precautions for user

Transport withinuser's premises: ADR/RID, IMDG, IATA Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Additional information

ADR/RID, IMDG, IATA
Hazard identification number 80 **Tunnel code** E
Emergency schedules (EmS) F-A S-B
Passenger and Cargo Aircraft Quantity limitation: 1 L Packaging instructions: 851
Cargo Aircraft Only Quantity limitation: 30 L Packaging instructions: 855

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

SECTION 15 REGULATORY INFORMATION

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

EU Regulation (EC) No. 1907/2006 (REACH)
This product is compliant with the REACH Regulation EC 1907/2006.
Huntsman has pre-registered and is registering all of the substances that it manufactures in or imports into the European Economic Area (EEA) that are subject to Title II of the REACH Regulation. **1**

Annex XIV - List of substances subject to authorisation

Annex XIV		None of the components are listed
Substances of very high concern		None of the components are listed.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	Not applicable.

Other EU regulations

Europe inventory :	All components are listed or exempted.
Black List Chemicals :	Not listed
Priority List Chemicals :	Not listed
Integrated pollution prevention and control list (IPPC) – Air :	Not listed
Integrated pollution prevention and control list (IPPC) - Water :	Not listed

National regulations

References : The provision of Safety Data Sheets comes under Regulation 6 of CHIP (CHIP is the recognised abbreviation for the Chemicals Hazard Information and Packaging Regulations). This is an addition to the Health and Safety at Work Act 1974.

Australia inventory (AICS) :	All components are listed or exempted.
Canada inventory :	All components are listed or exempted.
China inventory (IECSC) :	All components are listed or exempted.
Japan inventory :	All components are listed or exempted.
Korea inventory (KECI) :	Listed
New Zealand Inventory of Chemicals (NZIoC) :	All components are listed or exempted.
Philippines inventory (PICCS) :	
United States inventory (TSCA 8b) :	All components are listed or exempted
Chemical Weapons Convention List Schedule I Chemicals :	Not listed
Chemical Weapons Convention List Schedule II Chemicals :	Not listed
Chemical Weapons Convention List Schedule III Chemicals :	Not listed

15.2 Chemical Safety Assessment: This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16 OTHER INFORMATION

Indicates information that has changed from previously issued version.

Abbreviations and Acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	On basis of test data
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements :
H302 Harmful if swallowed.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects

Full text of classifications [CLP/GHS] :

Acute Tox. 4, H302	ACUTE TOXICITY: ORAL - Category 4
Acute Tox. 4, H312	ACUTE TOXICITY: SKIN - Category 4
Aquatic Chronic 3,	H412 LONG-TERM AQUATIC HAZARD - Category 3
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1

Full text of abbreviated R phrases:
R21/22- Harmful in contact with skin and if swallowed.
R34- Causes burns.
R41- Risk of serious damage to eyes.
R38- Irritating to skin.
R43- May cause sensitisation by skin contact.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications: [DSD/DPD]
C - Corrosive
Xn - Harmful
Xi – Irritant

(M)SDS no. : 00055632

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