

CHO-BOND® 29 EPOXY HARDENER

SDS No :PHC-048 EU

SDS Revision Date (dd/mm/yyyy): 28/01/2022

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

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

1.1 Product identifier : CHO-BOND® 29 EPOXY HARDENER

Product Code(s) : Hardener 29

SDS No. : PHC-048 EU

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

: Hardener
Use pattern professional use
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Parker Hannifin Manufacturing France SAS

ZAC des Epineaux
7 avenue Louis Blériot
95740 Frépillon
France

Email: parker.france@parker.com

Website: www.parkerfrance.fr

Telephone : 033 (01) 34 32 39 00

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC)- United States of America

Poisons Information Centre
Germany +49-30-18412-0
The United Kingdom +44 121 507 4123
France + 33 3 83 85 21 92
The Netherlands +31 88 75 585 61

1.5 National Contact

: E-mail: chomerics_europe@parker.com
Website: www.chomerics.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Liquid - Clear -light yellow . Amine odour.

Most important hazards:

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation.

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

Harmful to aquatic life with long lasting effects. See Section 12 for more environmental information.

This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:

Acute toxicity - Category 4; H312

Skin corrosion/irritation - Category 1; H314

Skin sensitization - Category 1; H317

Chronic aquatic hazard - Category 3; H412

2.2 Label elements

Hazard pictogram(s)

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Hazardous components which must be listed on the label: Triethylenetetramine, propoxylated; Triethylenetetramine; N-(3-(trimethoxysilyl)propyl)ethylenediamine.

Signal word:
DANGER!

Hazard statements:

- H312 - Harmful in contact with skin.
- H314 - Causes severe skin burns and eye damage.
- H317 - May cause an allergic skin reaction.
- H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements:

- P260 - Do not breathe mist or vapor.
- P280 - Wear protective gloves/clothing and eye/face protection.
- P310 - Immediately call a POISON CENTER or doctor/physician.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P501 - Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

Other hazards which do not result in classification:

May burn if heated to extreme temperatures. Vapours are heavier than air and may spread along floors. Burning produces obnoxious and toxic fumes. May cause respiratory irritation. Exposure to low vapour concentrations may cause swelling (edema) of the eyes, resulting in blurring of vision with a bluish haze and/or appearance of halos around lights. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights. Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, could be formed.

PBT assessment:

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture of: Amines; Phenol.

The following substances shall be indicated according to legislation:

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE
Triethylenetetramine, propoxylated	26950-63-0	500-055-5	Not applicable.	65.0 - 75.0	Skin Corr. 1B; H314 (supplier)	Not applicable

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Triethylenetetramine	112-24-3	203-950-6	Not applicable.	30.0 - 40.0	*Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412	ATE dermal = 2012.51 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	202-013-9	Not applicable.	7.0 - 13.0	*Acute Tox. 4 H302 Eye Irrit. 2; H319 Skin Irrit. 2; H315	ATE oral =5464.48 mg/kg ATE dermal = 9846.39 mg/kg
N-(3-(trimethoxysilyl)propyl) ethylenediamine	1760-24-3	217-164-6	Not applicable.	< 1.0	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Chronic 3; H412 (self classified)	Not applicable

The above CLP Acute toxicity Classifications for the following chemicals are 'Minimum Classifications':
Triethylenetetramine; 2,4,6-tris(dimethylaminomethyl)phenol.

For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTRE or doctor/physician. Never give anything by mouth to an unconscious person.
- Inhalation* : If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Immediately call a POISON CENTRE or doctor/physician.
- Skin contact* : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Flush with large amounts of water for 15 minutes. Immediately call a POISON CENTRE or doctor/physician. Wash contaminated clothing before reuse.
- Eye contact* : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 15 minutes. Do not rub area of contact. Immediately call a POISON CENTER or doctor/physician.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

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4.2 Most important symptoms and effects, both acute and delayed

- : Harmful in contact with skin. Symptoms may include pain, nausea, vomiting, muscle weakness, loss of coordination, shock and collapse.
Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. .
Direct eye contact may produce severe irritation with possible eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. May cause irreversible eye damage.
May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.
May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Exposure to low vapour concentrations may cause swelling (edema) of the eyes, resulting in blurring of vision with a bluish haze and/or appearance of halos around lights.
May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.
Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, could be formed.

4.3 Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Causes burns.
Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

- : Not considered flammable. However, may burn if exposed to extreme heat and flame. Vapours are heavier than air and may spread along floors. The pressure in sealed containers can increase under the influence of heat. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NOx); Ammonia; Hydrogen cyanide (hydrocyanic acid); Aldehydes; Ketones.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear chemically resistant personal protective equipment during cleanup.

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6.2 Environmental precautions

- : Avoid release to the environment. Prevent product from entering drains, sewers, waterways and soil. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.
Use only outdoors or in a well-ventilated area. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10).

7.3 Specific end use(s)

- : Hardener

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
Triethylenetetramine, propoxylated	None known.	European Union (OEL)	None.
Triethylenetetramine	1 ppm (6 mg/m ³) (TWA) 12 mg/m ³ (STEL)	Estonia (OEL)	None.
	N/Av	Germany (OEL)	N/Av
	1 mg/m ³ (TWA) 3 mg/m ³ (STEL)	Poland (OEL)	Skin notation
	1 ppm (6 mg/m ³) (TWA) 2 ppm (12 mg/m ³) (STEL)	Sweden (OEL)	None.
2,4,6-tris(dimethylaminomethyl)phenol			

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	None known.	European Union (OEL)	None.
N-(3-(trimethoxysilyl)propyl)ethylenediamine	None known.	European Union (OEL)	None.
	N/Av	Germany (OEL)	N/Av

Biological Exposure Indices:

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

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Advice should be sought from respiratory protection specialists.

Skin protection

: Wear protective gloves/clothing. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear resistant clothing and boots. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection

: Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace.

8.3 Environmental exposure controls

: Avoid release to the environment. Dike for water control.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Liquid Clear-light yellow
Colour	: Clear-light yellow
Odour	: amine-like
Odour threshold	: No information available.
pH	: No information available.
Flash point	: > 93.3°C

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Flashpoint (Method)	: closed cup
Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: No information available.
Melting/Freezing point	: No information available.
Relative density	: 1
Solubility in water	: Not miscible.
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: > 1 (Air = 1.0)
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: No information available.
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive. Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, could be formed.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
10.5 Incompatible materials	: Strong oxidizing agents; Strong acids; Aldehydes; Ketones; Nitrogen compounds.
10.6 Hazardous decomposition products	: None known. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NOx); Ammonia; Hydrogen cyanide (hydrocyanic acid); Aldehydes; Ketones

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SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Acute toxicity - Category 4. Harmful in contact with skin.
- Skin corrosion/Irritation** : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Skin corrosion/irritation - Category 1. Causes severe skin burns and eye damage.
- Serious eye damage/irritation** : This material is classified as a Skin corrosion/irritation Category 1 material. Eye damage is therefore implied.
- Respiratory or skin sensitisation** : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Skin sensitization - Category 1. May cause an allergic skin reaction.
May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.
Not expected to be a respiratory sensitizer.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen.
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Eye contact; Skin contact; Skin Absorption; Inhalation; Ingestion
- Effects of acute exposure** : Inhalation: May cause respiratory irritation.. Symptoms may include coughing, choking and wheezing.
- Skin contact: Causes burns. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Product may be absorbed and cause symptoms similar to those listed for ingestion.
- Eye contact: Causes burns. Prolonged contact may cause corrosive burns and eye damage. Exposure to low vapour concentrations may cause swelling (edema) of the eyes, resulting in blurring of vision with a bluish haze and/or appearance of halos around lights.
- Ingestion: May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe abdominal pain, vomiting, burns and bleeding.
- Potential Chronic Health Effects** : Chronic skin contact with low concentrations may cause dermatitis.
Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Information on other Hazards

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- : Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, could be formed. Under certain conditions, nitrites (a nitrosating agent), can react with amines to form nitrosamines, many of which are carcinogenic in animal tests.

11.1.1 Acute Toxicity

Toxicological data

- : No data is available on the product itself. The calculated ATE values for this mixture are:
ATE oral = 12 121 mg/kg
ATE dermal = 1915 mg/kg

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh. rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Triethylenetetramine, propoxylated	No information available.	> 2000 mg/kg	No information available.
Triethylenetetramine	No information available.	4340 mg/kg	805 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	No information available.	1200 mg/kg	1280 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	> 1.49, < 2.44 mg/L (aerosol)	1897 mg/kg	16 160 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

- : Harmful to aquatic life with long lasting effects. No data is available on the product itself. Should not be released into the environment. The product contains the following substances which are hazardous for the environment: Triethylenetetramine; N-(3-(trimethoxysilyl)propyl)ethylenediamine.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Triethylenetetramine, propoxylated	26950-63-0	No information available.	No information available.	None.
Triethylenetetramine	112-24-3	570 mg/L (Guppy)	No information available.	None.
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	180 - 240 mg/L (Rainbow trout)	No information available.	None.
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1760-24-3	> 100 mg/L (Rainbow trout)	No information available.	None.

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<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Triethylenetetramine, propoxylated	26950-63-0	No information available.	No information available.	None.
Triethylenetetramine	112-24-3	31.1 mg/L (Daphnia magna)	No information available.	None.
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	718 mg/L (grass shrimp)	No information available.	None.
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1760-24-3	90 mg/L (Daphnia magna)	≥ 1 mg/L	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Triethylenetetramine, propoxylated	26950-63-0	No information available.	No information available.	None.
Triethylenetetramine	112-24-3	20 mg/L/72hr (Green algae)	No information available.	None.
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	84 mg/L/72hr (Green algae)	No information available.	None.
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1760-24-3	8.8 mg/L/72hr (Green algae)	3.1 mg/L/72hr	None.

12.2 Persistence and degradability

- : The product itself has not been tested. Contains the following chemicals which are not readily biodegradable: Triethylenetetramine; 2,4,6-tris(dimethylaminomethyl)phenol; N-(3-(trimethoxysilyl)propyl)ethylenediamine.

12.3 Bioaccumulation potential

- : The product itself has not been tested. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Triethylenetetramine (CAS 112-24-3)	- 1.4	No information available.
2,4,6-tris(dimethylaminomethyl)phenol (CAS 90-72-2)	0.219	3 (Fish)
N-(3-(trimethoxysilyl)propyl)ethylenediamine (CAS 1760-24-3)	1.67	No information available.

12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

- : This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Endocrine disrupting properties

- : None known or reported by the manufacturer.

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12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies.

Empty containers retain residue (liquid and/or vapour) and can be dangerous. 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.

Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, 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. TRANSPORTATION INFORMATION

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S. (Triethylenetetramine; Triethylenetetramine, propoxylated)	8	II	
EU ADR/RID Classification Code	C7 - Corrosive substances without subsidiary risk; Basic substances; Organic, liquid				
EU ADR / RID Hazard Identification Number	80 - corrosive or slightly corrosive substance				
ADR/RID Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass.				
ICAO/IATA	UN2735	Amines, liquid, corrosive, n.o.s. (Triethylenetetramine; Triethylenetetramine, propoxylated)	8	II	
ICAO/IATA Additional information	Read safety instructions, SDS and emergency procedures before handling. Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.				
IMDG	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S. (Triethylenetetramine; Triethylenetetramine, propoxylated)	8	II	

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IMDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass.
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14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

- : Appropriate advice on safety must accompany the package. Avoid release to the environment.

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

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended

None of the components are specifically listed.

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances:

None.

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

Triethylenetetramine, propoxylated (CAS # 26950-63-0)

Triethylenetetramine (CAS # 112-24-3)

N-(3-(trimethoxysilyl)propyl)ethylenediamine (CAS # 1760-24-3)

Directive 94/33/EC on the protection of young people at work:

Triethylenetetramine, propoxylated (CAS # 26950-63-0)

Triethylenetetramine (CAS # 112-24-3)

N-(3-(trimethoxysilyl)propyl)ethylenediamine (CAS # 1760-24-3)

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on water endangering substances VwVwS - Water contaminating class (Germany): 2 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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SECTION 16. OTHER INFORMATION

Legend	: ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road ATE: Acute Toxicity Estimate CAS: Chemical Abstract Services CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures EC: European Community EC50: Effective Concentration 50% EEC: European Economic Community EN: European Standard ERG: Emergency Response Guidebook EU: European Union HSDB: Hazardous Substances Data Bank IATA: International Air Transport Association IBC: Intermediate Bulk Container IMDG: International Maritime Dangerous Goods LC: Lethal Concentration LD: Lethal Dose NOEC: No observable effect concentration OECD: Organisation for Economic Co-operation and Development OEL: National occupational exposure limits PEL: Permissible exposure limit RID: Regulations concerning the International Carriage of Dangerous Goods by Rail RTECS: Registry of Toxic Effects of Chemical Substances SDS: Safety Data Sheet STEL: Short Term Exposure Limit TWA: Time Weighted Average WEL: Workplace Exposure Limit
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Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2019 (Chempendium, RTECs, HSDB, INCHEM).
3. European Chemicals Agency, Classification Legislation, 2019.
4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2019.

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Revision Information

: 2. HAZARDS IDENTIFICATION, 9. PHYSICAL AND CHEMICAL PROPERTIES

Regulation and Procedure

:



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Acute toxicity ;Expert judgement
 Skin irritation; Expert judgement
 Skin sensitization;Expert judgement
 Aquatic toxicity;Expert judgement

H-phrases (full-text)
 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.
 H332 - Harmful if inhaled.
 H412 - Harmful to aquatic life with long lasting effects.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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