

SAFETY DATA SHEET

HARDENER HY 133 LP CI

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

Product name : HARDENER HY 133 LP CI

**Use of the substance/
mixture** : Hardener for adhesive systems

Supplier/Manufacturer : Huntsman Advanced Materials (Guangdong)
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responsible for this SDS** : Global_Product_EHS_AdMat@huntsman.com

Section 2. Hazards identification

**Classification of the
substance or mixture** : SKIN CORROSION/IRRITATION - Category 1C
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
LONG-TERM AQUATIC HAZARD - Category 3

GHS label elements

Signal word : Danger

Hazard statements : 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

Prevention : P280 - Wear protective gloves: > 8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL). Wear eye or face protection. Wear protective clothing.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.
P264 - Wash hands thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.

Response : P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several

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Section 2. Hazards identification

minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

- Storage** : P405 - Store locked up.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Symbol** :



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

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Polyoxypropylenediamine	30 - 60	9046-10-0
3-aminopropyldimethylamine	1 - 3	109-55-7
2,4,6-tris(dimethylaminomethyl)phenol	1 - 3	90-72-2

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.

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

Section 4. First-aid measures

Description of necessary first aid measures

- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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 48 hours.
- 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.
- 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.

Section 4. 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 burns must be treated promptly by a physician.

Most important symptoms/effects, acute and delayed

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.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following:
stomach pains

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

Eyes : Adverse symptoms may include the following:
pain
watering
redness

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

Specific treatments : Not available.

Notes to physician : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Not suitable : None known.

Specific hazards arising from the chemical : 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 waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides

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.

Remark : Not available.

Section 6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures** : 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.
- 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.
- Methods and materials for containment and cleaning up** : 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.
- 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

- Precautions for safe handling** : 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.
- 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. Empty containers retain product residue and can be hazardous. Do not reuse container.
- 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. 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** : Storage class 8, Corrosive substances
Huntsman Advanced Materials

Section 8. Exposure controls/personal protection

Control parameters

Ingredient name	Exposure limits
None.	

Section 8. Exposure controls/personal protection

- 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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- 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.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. 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.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Material of gloves for long term application (BTT>480min):** : butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL)
- Material of gloves for short term/splash application (10min <BTT<480min):** : nitrile rubber

(BTT = Break Through Time)

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.

- Eye 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 be required instead.
- Skin 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.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Colour	: Yellow.
Odour	: Not available.
Odour threshold	: Not available.
pH	: Not available.
Melting point	: Not available.
Boiling point	: Not available.
Flash point	: Closed cup: >100°C (>212°F)
Evaporation rate (butyl acetate = 1)	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: Not available.
Solubility	: Not available.
Water solubility	: Slightly soluble
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Viscosity	: Dynamic (room temperature): 60 to 100 mPa·s (60 to 100 cP) 25 deg C
Explosive properties	: Not available.
Oxidising properties	: Not available.

Other information

Density : 0.96 g/cm³ [25°C (77°F)]

No additional information.

Section 10. Stability and reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: strong acids, strong bases, strong oxidising agents
Hazardous decomposition 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

Information on the likely routes of exposure

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.

Section 11. Toxicological information

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

Acute toxicity

Product/ingredient name	Endpoint	Species	Result	Exposure
Polyoxypropylenediamine	LC50 Inhalation Vapour	Rat - Male, Female	>0.74 mg/l	8 hours
	LD50 Dermal	Rabbit - Male, Female	2979.7 mg/kg	-
	LD50 Oral	Rat - Male, Female	2885.3 mg/kg	-
3-aminopropyl dimethylamine	LC50 Inhalation Vapour	Rat - Male, Female	24.8 mg/l	2 hours
	LD50 Dermal	Rat	>1000 mg/kg	-
	LD50 Oral	Rat - Male, Female	410 mg/kg	-
2,4,6-tris (dimethylaminomethyl) phenol	LD50 Dermal	Rat - Male	>971 mg/kg	-
	LD50 Oral	Rat - Male, Female	2169 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Polyoxypropylenediamine	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	Skin - Corrosive
	OECD 405 Acute Eye Irritation/ Corrosion	Rabbit	Eyes - Corrosive
3-aminopropyl dimethylamine	No official guidelines	Rabbit	Eyes - Corrosive
	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	Skin - Corrosive
2,4,6-tris (dimethylaminomethyl) phenol	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	Skin - Corrosive
	EPA CFR	Rabbit	Eyes - Corrosive

Conclusion/Summary

Skin : Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy): Corrosive to the skin.
3-Aminopropyl dimethylamine: Corrosive to the skin.
2,4,6-tris(dimethylaminomethyl)phenol: Corrosive to the skin.

Eyes : Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy): Corrosive to eyes.
3-Aminopropyl dimethylamine: Corrosive to eyes.
2,4,6-tris(dimethylaminomethyl)phenol: Corrosive to eyes.

Sensitisation

Section 11. Toxicological information

Product/ingredient name	Test	Route of exposure	Species	Result
3-aminopropyl dimethylamine	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitising
2,4,6-tris (dimethylaminomethyl) phenol	OECD 406 Skin Sensitization	skin	Guinea pig	Not sensitizing
HARDENER HY 133 LP CI	-	skin	Guinea pig	Sensitising

Conclusion/Summary

Potential chronic health effects

General	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Skin contact	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Eye contact	: No known significant effects or critical hazards.
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.

Chronic toxicity

Product/ingredient name	Test	Result type	Result	Target organs
Polyoxypropylenediamine	OECD 411 Subchronic Dermal Toxicity: 90-day Study	NOAEL	Sub-chronic NOAEL Dermal	250 mg/kg/d -
	OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents	NOAEL	Sub-chronic NOAEL Oral	239 mg/kg/d -
3-aminopropyl dimethylamine	OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents	NOAEL	Sub-acute NOAEL Oral	50 mg/kg/d -
2,4,6-tris (dimethylaminomethyl) phenol	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	NOEL	Sub-acute NOEL Oral	15 mg/kg brain, liver, spleen

Carcinogenicity

Conclusion/Summary	: 3-Aminopropyl dimethylamine : 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.
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Mutagenicity

Product/ingredient name	Test	Result
Polyoxypropylenediamine	OECD 471 Bacterial Reverse Mutation Test	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative
3-aminopropyl dimethylamine	OECD 471 Bacterial Reverse Mutation Test	Negative

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2,4,6-tris (dimethylaminomethyl) phenol	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative
	OECD 471 Bacterial Reverse Mutation Test	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Negative

Conclusion/Summary : **Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)**: Not mutagenic in a standard battery of genetic toxicological tests.
3-Aminopropyldimethylamine: Not mutagenic in a standard battery of genetic toxicological tests.
2,4,6-tris(dimethylaminomethyl)phenol: Not mutagenic in a standard battery of genetic toxicological tests.

Teratogenicity

Product/ingredient name	Test	Species	Result / Result type
3-aminopropyldimethylamine	OECD 421 Reproduction/ Developmental Toxicity Screening Test	Rat - Male, Female	200 mg/kg NOAEL

Conclusion/Summary : **Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)**: 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.

Reproductive toxicity

Product/ingredient name	Test	Species	Result / Result type	Target organs
Polyoxypropylenediamine	OECD 421 Reproduction/ Developmental Toxicity Screening Test	Rat	Dermal: 30 mg/kg NOAEL	-
3-aminopropyldimethylamine	OECD 421 Reproduction/ Developmental Toxicity Screening Test	Rat	Oral: NOAEL	-
2,4,6-tris (dimethylaminomethyl)phenol	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat	Oral: NOEL	-

Conclusion/Summary : **Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)**: No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2,4,6-tris(dimethylaminomethyl)phenol	Category 2	Oral	brain

Section 12. Ecological information

Environmental effects : This material is harmful to aquatic life with long lasting effects.

Aquatic and terrestrial toxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
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Section 12. Ecological information

Polyoxypropylenediamine	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	EC50	48 hours	Daphnia	80	mg/l
	ISO	EC50	48 hours	Daphnia	418.34	mg/l
	OECD 203 Fish, Acute Toxicity Test	EC50	96 hours	Fish	>15	mg/l
	OECD 201 Alga, Growth Inhibition Test	ErC50 (growth rate)	72 hours	Algae	15	mg/l
	OECD 203 Fish, Acute Toxicity Test	LC50	96 hours	Fish	772.14	mg/l
	OECD 208 Seedling Emergence and Seedling Growth Test	EC50	3 hours	Bacteria	750	mg/l
	OECD 201 Alga, Growth Inhibition Test	NOEC	72 hours	Algae	0.32	mg/l
	OECD 209 Activated Sludge, Respiration Inhibition Test	NOEC	3 hours	Bacteria	310	mg/l
	ISO 10253:2006 - Marine algal growth inhibition test with <i>Skeletonema costatum</i> and <i>Phaeodactylum tricorutum</i>	NOECb	72 hours	Algae	100	mg/l
	3-aminopropyldimethylamine	DIN DIN 38412 Part 8	EC50	17 hours	Bacteria	95
EU EC C.2 Acute Toxicity for <i>Daphnia</i>		EC50	48 hours	Daphnia	59.5	mg/l
DIN		EbC50 (biomass)	72 hours	Algae	53.5	mg/l
DIN DIN 38412 Part 15		LC50	96 hours	Fish	122	mg/l
DIN DIN 38412 part 9		EbC10	72 hours	Algae	43	mg/l
2,4,6-tris (dimethylaminomethyl)phenol	DIN DIN 38412 Part 8	NOEC	17 hours	Bacteria	94.5	mg/l
	OECD 201 Alga, Growth Inhibition Test	ErC50 (growth rate)	72 hours	Algae	84	mg/l
	Unknown guidelines	LC50	96 hours	Daphnia	718	mg/l
	-	LC50	96 hours	Fish	175	mg/l
-	NOEC	72 hours	Algae	6.25	mg/l	

Biodegradability

Product/ingredient name	Test	Period	Result
Polyoxypropylenediamine	OECD 301B Ready Biodegradability - CO2 Evolution Test	28 days	0 %
3-aminopropyldimethylamine	OECD 301D Ready Biodegradability - Closed Bottle Test	20 days	65 %
2,4,6-tris (dimethylaminomethyl)phenol	OECD 301D Ready Biodegradability - Closed Bottle Test	28 days	4 %

Conclusion/Summary : Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy): Not biodegradable
3-Aminopropyldimethylamine: Readily biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Polyoxypropylenediamine	Fresh water 360 days	0.02 to 0.03 day(s)	Not readily
3-aminopropyldimethylamine	-	50%; 0.14 day(s)	Readily
2,4,6-tris(dimethylaminomethyl)phenol	-	-	Not readily

Bioaccumulative potential

Section 12. Ecological information

<u>Product/ingredient name</u>	<u>LogP_{ow}</u>	<u>BCF</u>	<u>Potential</u>
Polyoxypropylenediamine	1.34	-	low
3-aminopropyldimethylamine	-0.352	-	low
2,4,6-tris(dimethylaminomethyl) phenol	0.219	-	low

Mobility : Not available.

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or 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 non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. 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


International transport regulations

14.1 UN number **14.2 UN proper shipping name**

ADR/RID UN2735 Polyamines, liquid, corrosive, n.o.s. (Polyoxypropylene diamine)

IMDG UN2735 Polyamines, liquid, corrosive, n.o.s. (Polyoxypropylene diamine)



IATA UN2735 Polyamines, liquid, corrosive, n.o.s. (Polyoxypropylene diamine)

	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards	14.6 Special precautions for user	Additional information
ADR/RID	8 	III	No.	Transport within user's premises: 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.	Hazard identification number 80 Special provisions 274 Tunnel code E
IMDG	8	III	No.	Transport within user's premises: 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	Emergency schedules (EmS) F-A S-B

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				spillage.	
IATA	8 	III	No.	Transport within user's premises: 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.	<u>Passenger and Cargo Aircraft</u> Quantity limitation: 5 L Packaging instructions: 852 <u>Cargo Aircraft Only</u> Quantity limitation: 60 L Packaging instructions: 856

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

Section 15. Regulatory information

Hazard symbol or symbols :



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

Prevention

: Wear protective gloves: > 8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL). Wear eye or face protection. Wear protective clothing. Avoid release to the environment. Avoid breathing vapour. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

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. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage

: Store locked up.

Version : 2

Date of issue/Date of revision : 9/25/2014.

Section 15. Regulatory information

[Additional information: EU regulations](#)

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Hazard symbol or symbols :



Corrosive

Risk phrases

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

Safety phrases

- : S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
- S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 16. Other information

THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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