according to Regulation (EC) No. 1907/2006



HARDENER HV 953 U BD

Date:

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

1.1 Product identifier

Trade name

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

Use of the Substance/Mixture

: Hardener

1.3 Details of the supplier of the safety data sheet

Company Address	 Huntsman Advanced Materials (Europe)BVBA Everslaan 45 3078 Everberg Belgium 	
Telephone Telefax	: +41 61 299 20 41 : +41 61 299 20 40	
E-mail address of person responsible for the SDS	: Global_Product_EHS_AdMat@huntsman.com	

1.4 Emergency telephone number

Emergency telephone number	r : EUROPE: +32 35 75 1234 France ORFILA: +33(0)145425959 ASIA: +65 6336-6011 China: +86 20 39377888 +86 532 83889090 India: + 91 22 42 87 5333 Australia: 1800 786 152 New Zealand: 0800 767 437 USA: +1/800/424.9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)				
Skin corrosion, Sub-category 1C	H314: Causes severe skin burns and eye damage.			
Serious eye damage, Category 1	H318: Causes serious eye damage.			
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.			

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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Hazar	d pictograms	:		
Signal	word	:	Danger	
Hazar	d statements	:	H314 H317	Causes severe skin burns and eye damage. May cause an allergic skin reaction.
Preca	utionary statements	:	Prevention: P261 P280 Response: P301 + P330 + P3 P303 + P361 + P3 P304 + P340 + P3 P305 + P351 + P3	NOT induce vomiting. 353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. 310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label: N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine

Amines, polyethylenepoly-, triethylenetetramine fraction

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No.	Classification	Concent
	EC-No.		ration
	Index-No.		(% w/w)
	Registration number		(/0 00/00)
N'-(3-aminopropyl)-N,N-	10563-29-8	Acute Tox. 4; H302	>= 5 - <
dimethylpropane-1,3-diamine	234-148-4	Skin Corr. 1A; H314	9.65
	01-2119970376-29	Skin Sens. 1B; H317	

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	es, polyethylenepoly-, ylenetetramine fraction	90640-67-8 292-588-2 01-2119487919-13	Acute Tox. 4; H312	= 3 - < 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	: Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	 If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	 Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	 Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	 Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

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

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SECTION 5: Firefighting measures

5.1 Extinguishing media		
Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
5.2 Special hazards arising from	the	substance or mixture
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
5.3 Advice for firefighters		
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Specific extinguishing methods	:	No data is available on the product itself.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective	e equipment and emergency procedures
Personal precautions :	Use personal protective equipment. Evacuate personnel to safe areas. Ensure adequate ventilation.
	In case of inadequate ventilation wear respiratory protection.
6.2 Environmental precautions	
Environmental precautions :	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
6.3 Methods and material for contain	nment and cleaning up
Methods for cleaning up :	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 1 for emergency contact information. For personal protection see section 8. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
7.2 Conditions for safe storage, ir	ncl	uding any incompatibilities
Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Recommended storage	:	2 - 40 °C

Further information on : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

storage stability

temperature

Specific use(s)

: No data available

according to Regulation (EC) No. 1907/2006



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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
N'-(3-aminopropyl)- N,N-dimethylpropane- 1,3-diamine	Workers	Inhalation	Long-term systemic effects	3.7 mg/m3
	Workers	Inhalation	Acute systemic effects	7.5 mg/m3
	Workers	Inhalation	Long-term local effects	3.7 mg/m3
	Workers	Inhalation	Acute local effects	7.5 mg/m3
	Workers	Dermal	Long-term systemic effects	0.67 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.65 mg/m3
	Consumers	Inhalation	Long-term local effects	0.65 mg/m3
	Consumers	Oral	Long-term systemic effects	0.2 mg/kg
Amines, polyethylenepoly-, triethylenetetramine fraction	Workers	Inhalation	Acute systemic effects	5380 mg/m3
	Workers	Dermal	Long-term systemic effects	0.57 mg/kg
	Workers	Inhalation	Long-term systemic effects	1 mg/m3
	Workers	Dermal	Long-term local effects	0.028 mg/m3
	Consumers	Dermal	Acute systemic effects	8 mg/kg
	Consumers	Inhalation	Acute systemic effects	1600 mg/m3
	Consumers	Oral	Acute systemic effects	20 mg/kg
	Consumers	Dermal	Acute local effects	1 mg/cm2
	Consumers	Dermal	Acute local effects	0.25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.29 mg/m3
	Consumers	Oral	Long-term systemic effects	0.41 mg/kg
	Consumers	Dermal	Long-term local effects	0.43 mg/cm2

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

according to Regulation (EC) No. 1907/2006



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Substance name		Environmental Compartment	Value	
N'-(3-aminopropyl)-N,N- dimethylpropane-1,3-diamine		Fresh water	9.2 μg/l	
Remarks:	Assessm	ent Factors	·	
		Marine water	0.92 µg/l	
	Assessm	ent Factors		
		Freshwater - intermittent	92 µg/l	
	Assessme	ent Factors		
		Sewage treatment plant	18.1 mg/l	
	Assessme	ent Factors		
		Fresh water sediment	0.0336 mg/kg	
	Equilibriur	n method		
		Marine sediment	0.00336 mg/kg	
	Equilibriur	n method		
		Soil	0.00132 mg/kg	
Equilibriun		n method		
Amines, polyethylenepoly-, triethylenetetramine fraction		Fresh water	190 µg/l	
	Assessme	ent Factors		
		Fresh water sediment	95.9 mg/kg	
	Equilibriur	n method		
	1	Marine water	38 µg/l	
	Assessme	ent Factors		
		Freshwater - intermittent	200 µg/l	
	Assessme	ent Factors	L	
		Marine sediment	19.2 mg/kg	
	Equilibriur	n method		
		Soil	19.1 mg/kg	
	Equilibriur	n method	I	
		Sewage treatment plant	4.25 mg/l	
	Assessm	nent Factors		
	L	Secondary Poisoning 0.18 mg/kg		
	Assessm	ent Factors		

8.2 Exposure controls

Engineering measures

Effective exhaust ventilation system

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_			
	onal protective equip	: Eye wash bo Tightly fitting Wear face-s problems.	ottle with pure water g safety goggles hield and protective suit for abnormal processing eyewash stations and safety showers are close to ion location.
Mate	protection rial < through time	: butyl-rubber : >8 h	
Mate Break	rial < through time	: Nitrile rubber : 10 - 480 mir	
Mate Break	rial < through time	: Ethyl Vinyl A : >8 h	Alcohol Laminate (EVAL)
Rema	arks	specification EN 374 deriv replaced if th breakthrough producer co and of speci duration of c	d protective gloves have to satisfy the s of EU Directive 89/686/EEC and the standard wed from it. Gloves should be discarded and here is any indication of degradation or chemical h. Take note of the information given by the ncerning permeability and break through times, al workplace conditions (mechanical strain, contact). The suitability for a specific workplace scussed with the producers of the protective
Skin	and body protection		clothing y protection according to the amount and n of the dangerous substance at the work place.
Resp	iratory protection	ventilation is that exposur Recommend	ory protection unless adequate local exhaust provided or exposure assessment demonstrates es are within recommended exposure guidelines. led Filter type: articulates and organic vapour type
Filter	type	: Filter type A	-P

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	light yellow
Odour	:	slight
Odour Threshold	:	No data is available on the product itself.

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рН		:	No data is avail	able on the product itself.
Freez	ring point	:	No data is avail	able on the product itself.
Meltir	ng point	:	No data is avail	able on the product itself.
Boilin	ig point	:	> 200 °C	
Flash	point	:	110 °C Method: Pensk	y-Martens closed cup
Evapo	pration rate	:	No data is avail	able on the product itself.
Flam	mability (solid, gas)	:	No data is avail	able on the product itself.
Burni	ng rate	:	No data is avail	able on the product itself.
	r explosion limit / Upper nability limit	:	No data is avail	able on the product itself.
	r explosion limit / Lower nability limit	:	No data is avail	able on the product itself.
Vapo	ur pressure	:	0.04 hPa (20 °C	C)
Relati	ive vapour density	:	No data is avail	able on the product itself.
Relati	ive density	:	No data is avail	able on the product itself.
Densi	ity	:	0.95 g/cm3 (25	°C)
	bility(ies) ater solubility	:	practically insol	uble (20 °C)
So	lubility in other solvents	:	No data is avail	able on the product itself.
	ion coefficient: n- ol/water	:	No data is avail	able on the product itself.
Auto-	ignition temperature	:	No data is avail	able on the product itself.
Deco	mposition temperature	:	> 200 °C	
Visco Vis	osity scosity, dynamic	:	20,000 - 35,000) mPa.s (25 °C)
Explo	osive properties	:	No data is avail	able on the product itself.
Oxidi	zing properties	:	No data is avail	able on the product itself.

9.2 Other information

No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid

: Strong acids and strong bases Strong oxidizing agents

10.6 Hazardous decomposition products

Nitrogen oxides (NOx) Carbon dioxide (CO2) Carbon monoxide Burning produces noxious and toxic fumes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Acute oral toxicity - Product	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	No data available
Acute dermal toxicity - Product	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method
Acute toxicity (other routes of administration)	:	No data available

Skin corrosion/irritation

Product:

Result: Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

Product:

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Asse	ies: Rabbit ssment: Corrosive lt: Corrosive		
Rema	arks: May cause irrever	sible eye damage.	
Resp	iratory or skin sensit	isation	
Prod			
Rema	arks: Causes sensitisa	tion.	
Asse	ssment:	No data available	
Germ	cell mutagenicity		
	oonents:		
•	aminopropyl)-N,N-dime toxicity in vitro		ne: tion: with and without metabolic activation Test Guideline 487
			tion: with and without metabolic activation Test Guideline 471
			tion: with and without metabolic activation Test Guideline 476
	es, polyethylenepoly-, toxicity in vitro	triethylenetetramine fra : Concentration: (Metabolic activa Method: OECD Result: negative) - 200 μg/L tion: negative Test Guideline 482
Amine	oonents: es, polyethylenepoly-, toxicity in vivo	Dose: 0 - 600 m	te: Intraperitoneal injection g/kg Test Guideline 474

Carcinogenicity

Components:

N'-(3-aminopropyI)-N,N-dimethylpropane-1,3-diamine:

according to Regulation (EC) No. 1907/2006



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Species: Mouse, male Application Route: Dermal Exposure time: 20 month(s) Frequency of Treatment: 3 daily Result: negative

Amines, polyethylenepoly-, triethylenetetramine fraction: Species: Mouse, male Application Route: Dermal Dose: 42 mg/kg Frequency of Treatment: 3 daily Method: OECD Test Guideline 451 Result: negative

Carcinogenicity -Assessment : No data available

Reproductive toxicity

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine: Effects on fertility : Species: Rat, male and female Application Route: Oral Method: OECD Test Guideline 422 Result: Animal testing did not show any effects on fertility.

Components:

N'-(3-aminopropyl)-N,N-dimethylpr	opane-1,3-diamine:		
Effects on foetal :	Species: Rat, male and female		
development	Application Route: Oral		
	General Toxicity Maternal: No observed adverse effect level: 15 mg/kg body weight		
	Developmental Toxicity: No observed adverse effect level: 15 mg/kg body weight		
	Embryo-foetal toxicity: No observed adverse effect level: 15		
	mg/kg body weight		
	Method: OECD Test Guideline 422		
	Result: No effects on fertility and early embryonic		
	development were detected.		
Amines, polyethylenepoly-, triethy	lenetetramine fraction:		
	Species: Rat		
	Application Route: Oral		
	General Toxicity Maternal: No observed adverse effect level:		

Application Route: Oral General Toxicity Maternal: No observed adverse effect level: > 750 mg/kg body weight Method: OECD Test Guideline 414 Result: No teratogenic effects

Species: Rabbit Application Route: Dermal General Toxicity Maternal: No observed adverse effect level: 125 mg/kg body weight Method: OECD Test Guideline 414

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Result: No teratogenic effects

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine: Reproductive toxicity - : No evidence of adverse effects on sexual function and fertility, Assessment or on development, based on animal experiments.

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine: Species: Rat, male and female : 550 Application Route: Ingestion Test atmosphere: vapour Exposure time: 3 WeeksNumber of exposures: 7 d Method: Subchronic toxicity

Species: Mouse, male NOAEL: >= 56.3 Application Route: Skin contact Exposure time: 20 hNumber of exposures: 3 d Method: Chronic toxicity

Amines, polyethylenepoly-, triethylenetetramine fraction: Species: Rat, male and female NOAEL: 50 mg/kg Application Route: Ingestion Exposure time: 26 WeeksNumber of exposures: 7 d Method: Subchronic toxicity

Repeated dose toxicity - : No data available Assessment

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

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Skin	contact:	No data available	
Eye contact:		No data available	
Ingestion:		No data available	
	cology, Metabolism ata available	, Distribution	
Neuro	ological effects		
Furth	er information		
Produ	u <mark>ct:</mark> arks: No data availab		

SECTION 12: Ecological information

12.1 Toxicity

Components:	
N'-(3-aminopropyI)-N,N-dimethyIp	ropane-1,3-diamine:
Toxicity to fish :	LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 9.2 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae	ErC50 (Selenastrum capricornutum (green algae)): 21 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201
Toxicity to microorganisms	EC50 (Pseudomonas putida): 181 mg/l Exposure time: 16 h Test Type: static test Test substance: Fresh water

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Method: DIN 38 412 Part 8 Amines, polyethylenepoly-, triethylenetetramine fraction: Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: EPA OTS 797.1400 Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 31.1 mg/l aquatic invertebrates aquatic invertebrates : EC50 (Selenastrum capriconutum (green algae)): 20 mg Exposure time: 72 h Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.2. Toxicity to algae : EC50 (Selenastrum capriconutum (green algae)): 20 mg Exposure time: 72 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 201 Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l Exposure time: 0.5 h Test Type: static test Test substance: Fresh water Toxicity to daphnia and other : EC10 (.1.9 mg/l aquatic invertebrates Exposure time: 21 d (Chronic toxicity) Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Toxicity to daphnia and other : EC10 (.1.9 mg/l exposure time: 21 d (Chronic toxicity) Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Toxicity to daphnia and other : EC10 (.1.9 mg/l exposure time: 22 d Method: OECD Test Guideline 202 Ecotoxicology Assessment Accute aquatic toxicity : This product has no known ecotoxicological effects. 122 Persistence and degradability : Res	Version 1.0	Revision Date: 19.03.2018		0001010612	Date of last issue: - Date of first issue: 19.03.2018
Amines, polyethylenepoly-, triethylenetetramine fraction: Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: EPA OTS 797.1400 Toxicity to daphnia and other ECS0 (Daphnia magna (Water flea)): 31.1 mg/l aquatic invertebrates Test Type: static test Test Substance: Fresh water Method: Directive Goldenia: capricornutum (green algae)): 20 mg Exposure time: 72 h Test Type: static test Test Substance: Fresh water Method: OECD Test Guideline 201 Toxicity to microorganisms : ECS0 (activated sludge): 800 mg/l Exposure time: 0.5 h Test Type: static test Test Type: static test Test Substance: Fresh water Actic texter Toxicity to daphnia and other ECS0 (activated sludge): 800 mg/l Exposure time: 21 d (Chronic toxicity)					
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l Exposure time: 96 h Test Type: static test rest substance: Fresh water Method: EPA OTS 797.1400 Toxicity to daphnia and other aquatic invertebrates : aquatic invertebrates : EC50 (Daphnia magna (Water fleal): 31.1 mg/l Exposure time: 48 h Toxicity to algae : EC50 (Selenastrum capricomutum (green algae)): 20 mg Exposure time: 72 h Toxicity to algae : EC50 (Selenastrum capricomutum (green algae)): 20 mg Exposure time: 72 h Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l Exposure time: 0.5 h Toxicity to daphnia and other : EC10: 1.9 mg/l Exposure time: 21 d Toxicity to daphnia and other : EC10: 1.9 mg/l Exposure time: 21 d aquatic invertebrates aquatic invertebrates : Exposure time: 21 d (Chronic toxicity) : Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Acute aquatic toxicity : This product has no known ecotoxicological effects. 12.2 Persistence and degradability : Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d Method: ISO Armines, polyethylenepoly-, triethylenetetramine fraction: Biodegradability : Inoculum: actiwated sludge Result: Not read				Method: DIN 3	8 412 Part 8
aquatic invertebrates Exposure time: 48 h Test Type: static test Test Type: static test Test Type: static test Test Type: static test Toxicity to algae : ErC50 (Selenastrum capricomutum (green algae)): 20 mg Exposure time: 72 h Test Type: semi-static test Test Type: semi-static test Toxicity to algae : ErC50 (Selenastrum capricomutum (green algae)): 20 mg Exposure time: 72 h Test Type: static test Test Type: static test Test Type: static test Test Type: static test Test Type: static test Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l Exposure time: 0.5 h Test Type: static test Test Type: semi-static test Test substance: Fresh water Toxicity to daphnia and other : EC10: 1.9 mg/l aquatic invertebrates (Chronic toxicity) Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Acute aquatic toxicity : This product has no known ecotoxicological effects. 12.2 Persistence and degradability : Result: Readily biodegradable. Biodegradability : Result: Readily biodegradable.			-	LC50 (Pimeph Exposure time Test Type: sta Test substance	ales promelas (fathead minnow)): 330 mg/l : 96 h tic test e: Fresh water
Exposure time: 72 h Test Type: semi-static test Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 201 Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l Exposure time: 0.5 h Test Type: static test Test Type: static test Test Type: static test Test substance: Fresh water Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 202 Ecotoxicology Assessment Acute aquatic toxicity : This product has no known ecotoxicological effects. 12.2 Persistence and degradability Components: N-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine: Biodegradability : Result: Readily biodegradable. Biodegradability : Result: Readily biodegradable. Biodegradability : Inoculum: activated sludge Result: Not readily biodegradable. Biodegradability Method: ISO : Inoculum: activated sludge Resul			:	Exposure time Test Type: sta Test substance	: 48 h tic test e: Fresh water
Exposure time: 0.5 h Test Type: static test Test substance: Fresh water Toxicity to daphnia and other : EC10: 1.9 mg/l aquatic invertebrates (Chronic toxicity) EC10 : Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 202 Ecotoxicology Assessment Acute aquatic toxicity : This product has no known ecotoxicological effects. 12.2 Persistence and degradability Components: N-(3-aminopropyl)-N,N-dim ethylpropane-1,3-diamine: Biodegradability : Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d Method: ISO Amines, polyethylenepoly-, triethylenetetramine fraction: Biodegradability : Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 162 d Method: OECD Test Guideline 301D	Toxic	ity to algae	:	Exposure time Test Type: ser Test substance	: 72 h ni-static test e: Fresh water
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N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine: Biodegradability : Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d Method: ISO Amines, polyethylenepoly-, triethylenetetramine fraction: Biodegradability : Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 162 d Method: OECD Test Guideline 301D	12.2 Pers	istence and degradabi	lity		
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Biodegradation: 100 % Exposure time: 28 d Method: ISO Amines, polyethylenepoly-, triethylenetetramine fraction: Biodegradability : Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 162 d Method: OECD Test Guideline 301D	•		nylpi :	•	
Biodegradability : Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 162 d Method: OECD Test Guideline 301D	Diode	y a construction of the second s		Biodegradation Exposure time	: 100 %
Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 162 d Method: OECD Test Guideline 301D	Amin	es, polyethylenepoly-, tri	iethy	lenetetramine fi	action:
Inoculum: activated sludge	Biode	egradability	:	Result: Not rea Biodegradation Exposure time	adily biodegradable. : 0 % : 162 d
				Inoculum: activ	vated sludge

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Result: Not readily biodegradable. Biodegradation: 20 % Exposure time: 84 d Method: OECD Test Guideline 302 A

12.3 Bioaccumulative potential

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine: Partition coefficient: n- : log Pow: 0.5 octanol/water

> log Pow: -0.56 (25 °C) pH: 11.6 Method: OECD Test Guideline 107

Amines, polyethylenepoly-, triethylenetetramine fraction:					
Partition coefficient: n- :	log Pow: -2.65 (20 °C)				
octanol/water	Method: OECD Test Guideline 117				

12.4 Mobility in soil

Components:

Amines, polyethylenepoly-, triethylenetetramine fraction:Distribution among: Koc: 1584.9 - 5012environmental compartmentsMethod: OECD Test Guideline 106

12.5 Results of PBT and vPvB assessment

Product:

Assessment

: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological	:	No data available
information		

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Product	 Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product.

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Do not re-use empty containers.

SECTION 14: Transport information

ΙΑΤΑ		
14.1 UN number		UN 2735
14.2 UN proper shipping	:	Polyamines, liquid, corrosive, n.o.s.
name		(N-(3-DIMETHYLAMINOPROPYL)-1,3- PROPYLENEDIAMINE)
14.3 Transport hazard	:	8
class(es)		Ш
14.4 Packing group Labels	-	Corrosive
Packing instruction (cargo		856
aircraft)	•	
Packing instruction	:	852
(passenger aircraft)		
IMDG		
14.1 UN number 14.2 UN proper shipping		UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S.
name	•	POLIAMINES, LIQUID, CORROSIVE, N.O.S.
		(N-(3-DIMETHYLAMINOPROPYL)-1, 3- PROPYLENEDIAMINE)
14.3 Transport hazard class(es)	:	8
14.4 Packing group		Ш
Labels	:	8
EmS Code	:	F-A, S-B
14.5 Environmental hazards Marine pollutant		no
	•	
ADR		
14.1 UN number	:	UN 2735
14.2 UN proper shipping	:	POLYAMINES, LIQUID, CORROSIVE, N.O.S.
name		
		(N-(3-DIMETHYLAMINOPROPYL)-1,3- PROPYLENEDIAMINE)
14.3 Transport hazard	:	,
class(es)		
14.4 Packing group	:	
Labels 14.5 Environmental hazards	:	8
Environmentally hazardous	:	no
RID		
14.1 UN number	:	UN 2735
14.2 UN proper shipping	:	POLYAMINES, LIQUID, CORROSIVE, N.O.S.

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name

		(N-(3-DIMETHYLAMINOPROPYL)-1,3- PROPYLENEDIAMINE)
14.3 Transport hazard	:	8
class(es)		
14.4 Packing group	:	III
Labels	:	8
14.5 Environmental hazards		
Environmentally hazardous	:	no

Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
REACH - List of substances subject to authorisation - Future sunset date	: Not applicable

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this prod DSL	 duct are reported in the following inventories: This product contains one or several components listed in the Canadian NDSL.
AICS	: On the inventory, or in compliance with the inventory
NZIOC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

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TCSI		: On the inventory,	or in compliance with the inventory
TSCA		: On the inventory,	or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Full text of H-Statements						
H302	:	Harmful if swallowed.				
H312	:	Harmful in contact with skin.				
H314	:	Causes severe skin burns and eye damage.				
H317	:	May cause an allergic skin reaction.				
H318	:	Causes serious eye damage.				
H412	:	Harmful to aquatic life with long lasting effects.				
Full text of other abbreviations						
Acute Tox.	:	Acute toxicity				
Aquatic Chronic	:	Chronic aquatic toxicity				
Eye Dam.	:	Serious eye damage				
Skin Corr.	:	Skin corrosion				
Skin Sens.	:	Skin sensitisation				
Further information						
Classification of the mixture	Classification procedure:					
Skin Corr. 1C	H3	14 Based on product data or assessment				
Eye Dam. 1	H3	18 Based on product data or assessment				
Skin Sens. 1	H3	17 Calculation method				

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS 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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