

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## **XB 2253-1 HARDENER BD**

Version	Revision Date:	SDS Number:	Date of last issue: 20.12.2019
1.1	05.07.2023	400000009648	Date of first issue: 20.12.2019

Print Date 30.01.2024

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

#### **1.1 Product identifier**

Trade name : XB 2253-1 HARDENER BD

Unique Formula Identifier (UFI) : 58QE-107A-M00G-6C3V

#### **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 : Huntsman Advanced Materials (Europe) BV  
Address : Everslaan 45  
3078 Everberg  
Belgium

Telephone : +41 61 299 20 41  
Telefax : +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 : Centres Antipoison et de Toxicovigilance:  
ANGERS: 02 41 48 21 21  
BORDEAUX: 05 56 96 40 80  
LILLE: 0 825 812 822  
LYON: 04 72 11 69 11  
MARSEILLE 04 91 75 25 25  
NANCY: 03 83 32 36 36  
PARIS: 01 40 05 48 48  
RENNES: 02 99 59 22 22  
STRASBOURG: 03 88 37 37 37  
TOULOUSE: 05 61 77 74 47  
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

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Sub-category 1B	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.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH071 Corrosive to the respiratory tract.

Precautionary statements :

**Prevention:**

P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
P305 + P351 + P338 + P310 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/ doctor.  
P391 Collect spillage.

##### Hazardous components which must be listed on the label:

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine  
m-phenylenebis(methylamine)  
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia  
2,4,6-tris(dimethylaminomethyl)phenol

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### 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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine	- - 01-2119972321-42	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Chronic 2; H411	>= 50 - < 70
m-phenylenebis(methylamine)	1477-55-0 216-032-5 01-2119480150-50	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317 Aquatic Chronic 3; H412 EUH071  Acute toxicity estimate  Acute oral toxicity: 930 mg/kg Acute inhalation toxicity (dust/mist): 1,34 mg/l	>= 25 - < 30
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	- - 01-2119557899-12	Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 10 - < 20
Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol	445498-00-0 Polymer -	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2,5 - < 10

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		Acute toxicity estimate	
		Acute oral toxicity: 300,03 mg/kg	
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2 202-013-9 603-069-00-0 01-2119560597-27	Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318	$\geq 1 - < 3$

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.  
Treat symptomatically.  
Get medical attention if symptoms occur.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.  
Avoid inhalation, ingestion and contact with skin and eyes.  
No action shall be taken involving any personal risk or without suitable training.  
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- If inhaled : Consult a physician after significant exposure.  
If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- 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.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

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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 : Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire

### 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 : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Ammonia

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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 equipment and emergency procedures

Personal precautions : Use personal protective equipment.

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Ensure adequate ventilation.  
Refer to protective measures listed in sections 7 and 8.

### 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 containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.  
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.  
Avoid formation of aerosol.  
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.  
Provide sufficient air exchange and/or exhaust in work rooms.  
To avoid spills during handling keep bottle on a metal tray.  
Dispose of rinse water in accordance with local and national regulations.

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, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Keep in properly labelled containers.

Advice on common storage : For incompatible materials please refer to Section 10 of this

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Recommended storage temperature : 2 - 40 °C

Further information on storage stability : Stable under normal conditions.

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
m-phenylenebis(methylamine)	1477-55-0	VLCT (VLE)	0,1 mg/m <sup>3</sup>	FR VLE
Further information	Indicative exposure limits			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	Workers	Inhalation	Long-term systemic effects	5,29 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	2,5 mg/kg bw/day
m-phenylenebis(methylamine)	Workers	Inhalation	Long-term systemic effects	1,2 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	0,2 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0,33 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Workers	Inhalation	Long-term systemic effects	0,53 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic effects	2,1 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0,150 mg/kg
	Workers	Dermal	Acute systemic effects	0,600 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,130 mg/m <sup>3</sup>

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	Consumers	Inhalation	Acute systemic effects	0,130 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,075 mg/kg
	Consumers	Dermal	Acute systemic effects	0,075 mg/kg
	Consumers	Oral	Long-term systemic effects	0,075 mg/kg

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

Substance name	Environmental Compartment	Value
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	Fresh water	0,015 mg/l
	Remarks:Assessment Factors	
	Marine water	0,014 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,132 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	0,125 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Sewage treatment plant	7,5 mg/l
	Remarks:Assessment Factors	
	Secondary Poisoning	6,93 mg/kg
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,15 mg/l
	Remarks:Assessment Factors	
	Soil	0,018 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
2,4,6-tris(dimethylaminomethyl)phenol	Fresh water	0,046 mg/l
	Marine water	0,005 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	0,262 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,46 mg/l
	Soil	0,025 mg/kg
m-phenylenebis(methylamine)	Fresh water	0,094 mg/l
	Remarks:Assessment Factors	
	Marine water	0,009 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,152 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	10 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	12,4 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	1,24 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	



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	Soil	2,44 mg/kg
	Remarks:Equilibrium method	

### 8.2 Exposure controls

#### Personal protective equipment

Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Hand protection

Material : butyl-rubber  
Break through time : > 8 h

Material : Nitrile rubber  
Break through time : 10 - 480 min

Material : Ethyl Vinyl Alcohol Laminate (EVAL)  
Break through time : > 8 h

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines  
Equipment should conform to EN 14387

Filter type : Combined particulates, ammonia/amines and organic vapour type (AK-P)

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : Clear

Odour : slight

Odour Threshold : No data is available on the product itself.

pH : substance/mixture is non-soluble (in water)

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Melting point/freezing point	: No data is available on the product itself.
Boiling point	: No data is available on the product itself.
Flash point	: > 200 °C Method: estimated
Flammability (solid, gas)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: No data is available on the product itself.
Density	: 0,97 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	
Water solubility	: insoluble, immiscible
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Decomposition temperature	: No data is available on the product itself.
Viscosity	
Viscosity, dynamic	: 50 mPa.s (25 °C)

### **9.2 Other information**

No data available

## **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 hazards to be specially mentioned.

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### **10.4 Conditions to avoid**

Conditions to avoid : None known.

### **10.5 Incompatible materials**

Materials to avoid : None known.

### **10.6 Hazardous decomposition products**

Hazardous decomposition products : carbon dioxide  
carbon monoxide  
Nitrogen oxides (NOx)  
ammonia, anhydrous  
Aldehydes  
Ketones

## **SECTION 11: Toxicological information**

### **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

#### **Acute toxicity**

##### **Product:**

Acute oral toxicity : Acute toxicity estimate: > 2 000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

##### **Components:**

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Acute oral toxicity : LD50 (Rat, female): > 2 000 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2 000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

#### **m-phenylenebis(methylamine):**

Acute oral toxicity : LD50 (Rat, male and female): 930 mg/kg  
Method: OECD Test Guideline 401

Acute toxicity estimate: 930 mg/kg  
Method: Calculation method

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Acute inhalation toxicity : LC50 (Rat, male and female): ca. 1,34 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes

Acute toxicity estimate: 1,34 mg/l  
Test atmosphere: dust/mist  
Method: Calculation method

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rat, male and female): > 3 100 mg/kg  
Method: Other guidelines  
Symptoms: Necrosis, Erythema  
Assessment: The substance or mixture has no acute dermal toxicity

### Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:

Acute oral toxicity : LD50 (Rat, male and female): 2 885 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The component/mixture is low toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): > 0,74 mg/l  
Exposure time: 8 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit, male and female): 2 980 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The component/mixture is low toxic after single contact with skin.

### Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol:

Acute oral toxicity : LD50 (Rat, female): > 300 - < 2 000 mg/kg  
Method: OECD Test Guideline 423  
GLP: yes

Acute toxicity estimate: 300,03 mg/kg  
Method: Calculation method

### 2,4,6-tris(dimethylaminomethyl)phenol:

Acute oral toxicity : LD50 (Rat, male and female): 2 169 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The component/mixture is low toxic after single ingestion.

Acute dermal toxicity : LD50 (Rat, male): > 1 ml/kg  
Assessment: The substance or mixture has no acute dermal toxicity

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### Skin corrosion/irritation

#### Components:

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Species	: human skin
Assessment	: Irritant
Method	: OECD Test Guideline 439
Result	: Irritating to skin.

#### **m-phenylenebis(methylamine):**

Species	: Rat
Assessment	: Causes burns.
Method	: Directive 67/548/EEC, Annex V, B.4.
Result	: Corrosive after 3 minutes to 1 hour of exposure

#### **Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:**

Species	: Rabbit
Assessment	: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.
Method	: OECD Test Guideline 404
Result	: Corrosive after 1 to 4 hours of exposure

#### **2,4,6-tris(dimethylaminomethyl)phenol:**

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Corrosive after 1 to 4 hours of exposure

Species	: synthetic macromolecular bio-barrier
Method	: OECD Test Guideline 435
Result	: Corrosive after 1 to 4 hours of exposure

### Serious eye damage/eye irritation

#### Components:

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Species	: Rabbit
Assessment	: Severe eye irritation
Method	: OECD Test Guideline 405
Result	: Irreversible effects on the eye

#### **m-phenylenebis(methylamine):**

Assessment	: Risk of serious damage to eyes.
Result	: Risk of serious damage to eyes.

#### **Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:**

Species	: Rabbit
Assessment	: Risk of serious damage to eyes.

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Method : OECD Test Guideline 405  
Result : Irreversible effects on the eye

### **2,4,6-tris(dimethylaminomethyl)phenol:**

Species : Rabbit  
Assessment : Corrosive  
Method : Other guidelines  
Result : Corrosive

### **Respiratory or skin sensitisation**

#### **Components:**

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Exposure routes : Skin  
Species : Mouse  
Assessment : The product is a skin sensitiser, sub-category 1A.  
Method : OECD Test Guideline 429  
Result : Causes sensitisation.

#### **m-phenylenebis(methylamine):**

Exposure routes : Skin  
Species : Mouse  
Assessment : Probability or evidence of low to moderate skin sensitisation rate in humans  
Method : OECD Test Guideline 429  
Result : Probability or evidence of low to moderate skin sensitisation rate in humans  
GLP : yes

Assessment : Harmful if swallowed or if inhaled., Causes severe skin burns and eye damage., Corrosive to the respiratory tract.  
May cause an allergic skin reaction.

### **2,4,6-tris(dimethylaminomethyl)phenol:**

Exposure routes : Skin  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

### **Germ cell mutagenicity**

#### **Components:**

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Metabolic activation: with and without metabolic activation

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Method: OECD Test Guideline 476

Result: negative

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative

### **m-phenylenebis(methylamine):**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse (male and female)  
Cell type: Bone marrow  
Application Route: Oral  
Exposure time: single dose  
Dose: 750 mg/kg body weight  
Method: OECD Test Guideline 474  
Result: negative  
GLP: yes

Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Animal testing did not show any mutagenic effects.

### **Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Test system: Salmonella tryphimurium and E. coli  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476

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Result: negative

Test Type: gene mutation test

Result: negative

GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse (male and female)  
Cell type: Bone marrow  
Application Route: Oral  
Dose: 125/250/500 mg/kg bw/day  
Method: OECD Test Guideline 474  
Result: negative

### Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

### 2,4,6-tris(dimethylaminomethyl)phenol:

Genotoxicity in vitro : Concentration: 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Concentration: 2500 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

### Carcinogenicity

No data available

### Reproductive toxicity

#### Components:

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Method: OECD Test Guideline 422

#### **m-phenylenebis(methylamine):**



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- Effects on fertility : Test Type: Reproduction / Developmental Toxicity Screening Test  
Species: Rat, male and female  
Application Route: Oral  
Dose: 0, 50, 150 and 450 mg/kg  
General Toxicity - Parent: NOEL: 50 - 150 mg/kg body weight  
General Toxicity F1: NOEL: 450 mg/kg body weight  
Method: OECD Test Guideline 421  
Result: No effects on fertility and early embryonic development were detected.  
GLP: yes
- Effects on foetal development : Test Type: Pre-natal  
Species: Rat, female  
Strain: Sprague-Dawley  
Application Route: Oral  
Dose: 0, 30, 100, 300 mg/kg milligram per kilogram  
Duration of Single Treatment: 15 d  
Frequency of Treatment: 1 daily  
General Toxicity Maternal: NOAEL: 100 mg/kg body weight  
Developmental Toxicity: NOAEL: 300 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No effects on fertility and early embryonic development were detected.
- Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

### Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:

- Effects on fertility : Test Type: Reproduction / Developmental Toxicity Screening Test  
Species: Rat, male and female  
Application Route: Dermal  
Dose: 3/10/30 milligram per kilogram  
General Toxicity - Parent: NOAEL: 30 mg/kg body weight  
General Toxicity F1: NOAEL: 30 mg/kg body weight  
Method: OECD Test Guideline 421  
Result: Animal testing did not show any effects on fertility.
- Species: Rat, male and female  
Application Route: Oral  
Dose: 0/50/150/450 milligram per kilogram  
General Toxicity - Parent: NOAEL: 150 mg/kg body weight  
General Toxicity F1: NOAEL: 150 mg/kg body weight  
Method: OECD Test Guideline 443
- Test Type: Reproduction / Developmental Toxicity Screening Test  
Species: Rat, male and female  
Application Route: Oral  
Dose: 0/75/150/300/600 mg/kg bw/d  
General Toxicity - Parent: NOAEL: 150 mg/kg body weight  
General Toxicity F1: NOAEL: 600 mg/kg body weight  
Method: OECD Test Guideline 421

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Effects on foetal development : Test Type: Pre-natal  
Species: Rabbit, female  
Application Route: Oral  
Dose: 15/50/115 milligram per kilogram  
Duration of Single Treatment: 23 d  
General Toxicity Maternal: NOAEL: 50 mg/kg body weight  
Developmental Toxicity: NOAEL: 115 mg/kg body weight  
Method: OECD Test Guideline 414

Test Type: Pre-natal  
Species: Rat, female  
Application Route: Oral  
Dose: 0/40/125/350 milligram per kilogram  
Duration of Single Treatment: 13 d  
General Toxicity Maternal: NOAEL: 350 mg/kg body weight  
Developmental Toxicity: NOAEL: 350 mg/kg body weight  
Method: OECD Test Guideline 414

### **2,4,6-tris(dimethylaminomethyl)phenol:**

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Method: OECD Test Guideline 422  
Remarks: No significant adverse effects were reported

### **STOT - single exposure**

No data available

### **STOT - repeated exposure**

No data available

### **Repeated dose toxicity**

#### **Components:**

### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Species : Rat, male and female  
NOAEL : 1000 mg/kg  
Application Route : Ingestion  
Exposure time : 6 Weeks  
Number of exposures : 7 d  
Method : Subacute toxicity

### **m-phenylenebis(methylamine):**

Species : Rat, male and female  
NOEL : 150 mg/kg  
Application Route : oral (gavage)  
Exposure time : 28 d  
Number of exposures : 7 days/week  
Dose : 0, 10, 40, 150 and 600 mg/kg/d  
Method : OECD Test Guideline 407  
GLP : yes

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Species	:	Rat, male and female
NOEC	:	0,6 mg/m <sup>3</sup>
Application Route	:	Inhalation
Exposure time	:	13 weeks 6 h
Number of exposures	:	5 days/week
Dose	:	0, 0.64, 5.1, 31 mg/m <sup>3</sup>
Method	:	OECD Test Guideline 413
GLP	:	yes
Target Organs	:	Lungs
Repeated dose toxicity - Assessment	:	Harmful if swallowed or if inhaled., Causes severe skin burns and eye damage., Corrosive to the respiratory tract. No adverse effect has been observed in chronic toxicity tests.

### Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:

Species	:	Rat, male and female
NOAEL	:	>= 250 mg/kg/d
Application Route	:	Dermal
Exposure time	:	90 days 6 h
Number of exposures	:	5 days/week
Dose	:	0/50/80/250 mg/kg bw/day
Method	:	OECD Test Guideline 411

### 2,4,6-tris(dimethylaminomethyl)phenol:

Species	:	Rat, male and female
NOEL	:	15 mg/kg
Application Route	:	Ingestion
Exposure time	:	1 032 h
Number of exposures	:	7 d
Method	:	Subacute toxicity

### Aspiration toxicity

No data available

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher
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### Experience with human exposure

No data available

### Toxicology, Metabolism, Distribution

No data available

### Neurological effects

No data available

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### Further information

No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Toxicity to fish	: LC50 (Brachydanio rerio (zebrafish)): 7,07 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 5,18 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Selenastrum capricornutum (green algae)): 2,63 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201
Toxicity to microorganisms	: EC50 : 721 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209

#### **m-phenylenebis(methylamine):**

Toxicity to fish	: LC50 (Oryzias latipes (Orange-red killifish)): 87,6 mg/l End point: mortality Exposure time: 96 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 15,2 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic	: ErC50 (Selenastrum capricornutum (green algae)): 32,1 mg/l

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plants

Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 201  
GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 10,5 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 201  
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): > 1 000 mg/l  
Exposure time: 0,5 h  
Test Type: static test  
Analytical monitoring: no  
Test substance: Fresh water  
Method: OECD Test Guideline 209  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 4,7 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 211  
GLP: yes

### Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:

Toxicity to fish : EC50 (Oncorhynchus mykiss (rainbow trout)): > 15 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 80 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

EC50 (Acartia tonsa): 418,34 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Marine water

Toxicity to algae/aquatic plants : ErC50 (Selenastrum capricornutum (green algae)): 15 mg/l  
Exposure time: 72 h  
Test Type: static test

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Test substance: Fresh water  
Method: OECD Test Guideline 201

NOECr (Selenastrum capricornutum (green algae)): 0,32 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 201

IC50 (Skeletonema costatum (marine diatom)): 141,72 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Marine water  
Method: ISO 10253

ErC10 (Skeletonema costatum (marine diatom)): 33,34 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Marine water  
Method: ISO 10253

Toxicity to microorganisms : EC50 (activated sludge): 750 mg/l  
Exposure time: 3 h  
Test Type: static test  
Method: OECD Test Guideline 209

### Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

### Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 40 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 24 mg/l  
aquatic invertebrates  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic : EC50 (Selenastrum capricornutum (green algae)): > 219 ug/l  
plants  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 201  
GLP: yes

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### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### 2,4,6-tris(dimethylaminomethyl)phenol:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 175 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates : LC50 (Palaeomonetes vulgaris (Grass shrimp)): 718 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: static test  
Analytical monitoring: no  
Test substance: Marine water

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 84 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 6,25 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 201

### 12.2 Persistence and degradability

#### Components:

#### **Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:**

Biodegradability : Inoculum: activated sludge  
Result: Not readily biodegradable.  
Biodegradation: 0 - 70 %  
Exposure time: 74 d  
Method: OECD Test Guideline 301B

#### **m-phenylenebis(methylamine):**

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge, non-adapted  
Concentration: 14,2 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 49 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
Test substance: Fresh water  
GLP: yes

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### Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:

Biodegradability : Test Type: aerobic  
Inoculum: Mixture  
Result: Not biodegradable  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

Stability in water : Degradation half life (DT50): 12 Months (25 °C)  
pH: 6,5  
Method: No information available.  
Remarks: Fresh water

### Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol:

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 3 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301A

### 2,4,6-tris(dimethylaminomethyl)phenol:

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge, non-adapted  
Concentration: 2 mg/l  
Result: Not biodegradable  
Biodegradation: 4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

## 12.3 Bioaccumulative potential

### Components:

#### Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and tetraethylenepentamine:

Bioaccumulation : Bioconcentration factor (BCF): 2,14  
Remarks: Bioaccumulation is unlikely.

#### m-phenylenebis(methylamine):

Partition coefficient: n-octanol/water : log Pow: 0,18 (25 °C)  
pH: 10,3 - 10,4  
Method: OECD Test Guideline 107  
GLP: yes

### Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia:

Partition coefficient: n-octanol/water : Pow: 22,09 (25 °C)  
log Pow: 1,34 (25 °C)

### Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol:

Partition coefficient: n-octanol/water : Pow: 6,47 (20 °C)  
log Pow: 0,81 (20 °C)



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Method: OECD Test Guideline 107  
GLP: yes

### 2,4,6-tris(dimethylaminomethyl)phenol:

Partition coefficient: n-octanol/water	:	Pow: $\geq 0,219$ (21,5 °C)
		log Pow: -0,66 (21,5 °C)
		Method: OPPTS 830.7550

### 12.4 Mobility in soil

No data available

### 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 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

### 12.7 Other adverse effects

#### Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product	:	Dispose of contents and container in accordance with all local, regional, national and international regulations. Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

## SECTION 14: Transport information

### 14.1 UN number or ID number

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<b>ADN</b>	:	UN 1760
<b>ADR</b>	:	UN 1760
<b>RID</b>	:	UN 1760
<b>IMDG</b>	:	UN 1760
<b>IATA</b>	:	UN 1760

### 14.2 UN proper shipping name

<b>ADN</b>	:	CORROSIVE LIQUID, N.O.S. (M-XYLYLENE DIAMINE)
<b>ADR</b>	:	CORROSIVE LIQUID, N.O.S. (M-XYLYLENE DIAMINE)
<b>RID</b>	:	CORROSIVE LIQUID, N.O.S. (M-XYLYLENE DIAMINE)
<b>IMDG</b>	:	CORROSIVE LIQUID, N.O.S. (M-XYLYLENE DIAMINE)
<b>IATA</b>	:	Corrosive liquid, n.o.s. (M-XYLYLENE DIAMINE)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADN</b>	:	8
<b>ADR</b>	:	8
<b>RID</b>	:	8
<b>IMDG</b>	:	8
<b>IATA</b>	:	8

### 14.4 Packing group

<b>ADN</b>	
Packing group	: II
Classification Code	: C9
Hazard Identification Number	: 80
Labels	: 8
<b>ADR</b>	
Packing group	: II
Classification Code	: C9
Hazard Identification Number	: 80
Labels	: 8
Tunnel restriction code	: (E)
<b>RID</b>	
Packing group	: II
Classification Code	: C9
Hazard Identification Number	: 80
Labels	: 8
<b>IMDG</b>	
Packing group	: II

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Labels : 8  
EmS Code : F-A, S-B

### IATA (Cargo)

Packing instruction (cargo aircraft) : 855  
Packing instruction (LQ) : Y840  
Packing group : II  
Labels : Corrosive

### IATA (Passenger)

Packing instruction (passenger aircraft) : 851  
Packing instruction (LQ) : Y840  
Packing group : II  
Labels : Corrosive

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : yes

### ADR

Environmentally hazardous : yes

### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes(FORMALDEHYDE, POLYMER WITH AMINE AND PHENOL, POLYAMIDOAMINE)

## 14.6 Special precautions for user

Not applicable

## 14.7 Maritime transport in bulk according to IMO instruments

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 - List of substances subject to authorisation (Annex XIV) : Not applicable

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 - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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Seveso III: Directive 2012/18/EU of the E2 ENVIRONMENTAL HAZARDS  
European Parliament and of the Council on the  
control of major-accident hazards involving  
dangerous substances.

Occupational Illnesses (R- : 51, 49, 49 bis, 43  
461-3, France)

Installations classified for the : 4511  
protection of the environment  
(Environment Code R511-9)

### 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 product are reported in the following inventories:

DSL : This product contains one or several components listed in the  
Canadian NDSL.

AIIC : All components are listed on the inventory, regulatory  
obligations/restrictions apply. Please contact your sales  
representative for more information before import into  
Australia

NZIoC : On the inventory, or in compliance with the inventory

ENCS : Notified. Allowed to be imported / manufactured only by the  
notifiers. Please contact your Huntsman sales representative  
for more information.

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

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

TSCA : All substances listed as active on the TSCA inventory

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### Inventories

AICS (Australia), AIC (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.
H314	: Causes severe skin burns and eye damage.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H332	: Harmful if inhaled.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.
EUH071	: Corrosive to the respiratory tract.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
FR VLE	: France. Occupational Exposure Limits
FR VLE / VLCT (VLE)	: Short Term Exposure Limit

### Further information

#### Classification of the mixture:

Skin Corr. 1B	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Aquatic Chronic 2	H411

#### Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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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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