

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® 2015-1 HARDENER

Version 2.0      Revision Date: 06.11.2023      SDS Number: 400000004944      Date of last issue: 31.05.2022  
Date of first issue: 15.12.2016

Print Date 05.12.2023

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

#### 1.1 Product identifier

Trade name : ARALDITE® 2015-1 HARDENER

Unique Formula Identifier (UFI) : FFM5-M02R-X00X-Y5YE

#### 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 : Berlin: 0049 30 19 24 0 & 0049 30 30 68 6 7 11  
Bonn: 0049 228 19 27 0 & 0049 228 28 7 3 32 11  
Erfurt: 0049 361 73 07 30  
Freiburg: 0049 761 16 24 0  
Göttingen: 0049 51 19 24 0 & 0049 551 38 31 80  
Homburg: 0049 6841 19 24 0  
Mainz: 0049 6131 19 24 0 & 0049 6131 23 24 66  
München: 0049 89 19 24 0  
Nürnberg: 0049 911 39 8 2 45 1  
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 1A      H314: Causes severe skin burns and eye damage.

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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.

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:**

2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated  
Reaction mass of trientine and trientine, mono- and di-propoxylated  
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine  
3-aminopropyltriethoxysilane

### 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

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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

Chemical nature : Amines

#### Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	68683-29-4 Polymer	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 30 - < 50
Reaction mass of trientine and trientine, mono- and di-propoxylated	- - 01-2120098765-38	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 2,5 - < 10
bis(isopropyl)naphthalene	38640-62-9 254-052-6 01-2119565150-48	Asp. Tox. 1; H304 Aquatic Chronic 1; H410  M-Factor (Chronic aquatic toxicity): 1	>= 2,5 - < 10
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	25513-64-8 247-063-2 01-2119560598-25	Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317  Acute toxicity estimate  Acute oral toxicity: 910 mg/kg	>= 5 - < 10
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	>= 1 - < 3
3-aminopropyltriethoxysilane	919-30-2 213-048-4 612-108-00-0 01-2119480479-24	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317  Acute toxicity estimate	>= 0,1 - < 1

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		Acute oral toxicity: 1 491 mg/kg	
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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 : 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.  
Take victim immediately to hospital.

**4.2 Most important symptoms and effects, both acute and delayed**

- Risks : May cause an allergic skin reaction.  
Causes serious eye damage.  
Causes severe burns.

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

Treatment : Treat symptomatically.

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## 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 oxides  
Nitrogen oxides (NO<sub>x</sub>)

### 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.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
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.

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### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Neutralise with acid.  
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.  
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.

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 : Do not store near acids.

Storage class (TRGS 510) : 8A

Further information on storage stability : Stable under normal conditions.

Recommended storage temperature : 2 - 40 °C

### 7.3 Specific end use(s)

Specific use(s) : No data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
barium sulfate	7727-43-7	AGW (Inhalable fraction)	10 mg/m <sup>3</sup>	DE TRGS 900
Peak-limit: excursion factor (category): 2;(II)				
Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				
		AGW (Alveolate fraction)	1,25 mg/m <sup>3</sup>	DE TRGS 900
Peak-limit: excursion factor (category): 2;(II)				
Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				
		BM (Alveolar dust fraction)	0,5 mg/m <sup>3</sup>	DE TRGS 527

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

Substance name	End Use	Exposure routes	Potential health effects	Value
barium sulfate	Workers	Inhalation	Long-term systemic effects	10 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
	Consumer use	Inhalation	Long-term systemic effects	10 mg/m <sup>3</sup>
	Consumer use	Oral	Long-term systemic effects	13000 mg/kg
bis(isopropyl)naphthalene	Workers	Inhalation	Systemic effects, Long-term exposure	30 mg/m <sup>3</sup>
	Workers	Dermal	Systemic effects, Long-term exposure	4,3 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Long-term exposure	7,4 mg/m <sup>3</sup>
	Consumers	Dermal	Systemic effects, Long-term exposure	2,1 mg/kg bw/day
	Consumers	Oral	Systemic effects, Long-term exposure	2,1 mg/kg bw/day
	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	Consumers	Oral	Long-term systemic effects
Reaction mass of trientine and trientine, mono- and di-propoxylated	Workers	Inhalation	Long-term systemic effects	3,51 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	2 mg/kg

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3-aminopropyltriethoxysilane	Workers	Inhalation	Long-term systemic effects	59 mg/m <sup>3</sup>
	Workers	Inhalation	Systemic effects, Short-term exposure	59 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	8,3 mg/kg bw/day
	Workers	Dermal	Systemic effects, Short-term exposure	8,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	17,4 mg/m <sup>3</sup>
	Consumers	Inhalation	Systemic effects, Short-term exposure	17,4 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	5 mg/kg bw/day
	Consumers	Dermal	Systemic effects, Short-term exposure	5 mg/kg bw/day
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>
	Consumers	Inhalation	Acute systemic effects	0,130 mg/m <sup>3</sup>
	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
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	
barium sulfate	Freshwater - intermittent	0,46 mg/l
	Soil	0,025 mg/kg
	Fresh water	115 µg/l
	Sewage treatment plant	62,2 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	600,4 mg/kg
	Remarks:Assessment Factors	
	Soil	207,7 mg/kg
	Remarks:Assessment Factors	



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bis(isopropyl)naphthalene	Fresh water	0,26 µg/l
	Remarks:Assessment Factors	
	Marine water	0,026 µg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	0,15 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,94 mg/kg
	Remarks:Equilibrium method	
	Marine sediment	0,094 mg/kg
	Remarks:Equilibrium method	
	Soil	0,1872 mg/kg
	Remarks:Equilibrium method	
	Secondary Poisoning	25 mg/kg
	Remarks:Assessment Factors	
Siloxanes and silicones, di-Me, reaction products with silica	Fresh water sediment	> 100 mg/kg
	Remarks:Assessment Factors	
	Soil	23 mg/kg
	Remarks:Assessment Factors	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	Fresh water	0,102 mg/l
	Remarks:Assessment Factors	
	Marine water	0,01 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	72 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,662 mg/kg
	Remarks:Equilibrium method	
	Marine sediment	0,062 mg/kg
	Remarks:Equilibrium method	
Reaction mass of trientine and trientine, mono- and di-propoxylated	Fresh water	0,0041 mg/l
	Remarks:Assessment Factors	
	Marine water	0,0004 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	4,3 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,171 mg/kg
	Remarks:Equilibrium method	
	Marine sediment	0,0171 mg/kg
	Remarks:Equilibrium method	
	Soil	0,00317 mg/kg
	Remarks:Equilibrium method	
3-aminopropyltriethoxysilane	Fresh water	0,33 mg/l
	Remarks:Assessment Factors	
	Marine water	0,033 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	13 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	1,2 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	0,12 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	

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	Remarks:Equilibrium method	
	Soil	0,05 mg/kg dry weight (d.w.)
	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 : 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. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of 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 137

Filter type : Self-contained breathing apparatus

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Physical state : liquid

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Colour : beige

Odour : amine-like

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

Melting point/freezing point : No data available

Boiling point : > 200 °C

Flammability (solid, gas) : No data is available on the product itself.

Lower explosion limit / Lower flammability limit : No data is available on the product itself.

Upper explosion limit / Upper flammability limit : No data is available on the product itself.

Flash point : > 100 °C  
Method: Pensky-Martens closed cup

Auto-ignition temperature : No data is available on the product itself.

Decomposition temperature : > 200 °C

pH : ca. 11 (20 °C)  
Concentration: 500 g/l

Viscosity  
Viscosity, dynamic : 50 000 - 100 000 mPa.s (20 °C)

Solubility(ies)  
Water solubility : insoluble

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.

Vapour pressure : No data is available on the product itself.

Density : 1,42 g/cm<sup>3</sup> (23 °C)

Relative density : No data is available on the product itself.

Relative vapour density : No data is available on the product itself.

Particle characteristics : No data is available on the product itself.

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### 9.2 Other information

Miscibility with water : completely miscible

Molecular weight : 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.

### 10.4 Conditions to avoid

Conditions to avoid : None known.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

Hazardous decomposition products : carbon monoxide  
carbon dioxide  
Nitrogen oxides (NOx)

## SECTION 11: Toxicological information

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

#### Acute toxicity

Not classified due to lack of data.

#### Product:

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

#### Components:

**2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated:**

Acute oral toxicity : LD50 (Rat): > 15.4 g/kg

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Acute dermal toxicity : LD50 (Rabbit): > 3 g/kg

### Reaction mass of trientine and trientine, mono- and di-propoxylated:

Acute oral toxicity : LD50 (Rat, male and female): 4 500 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): >= 2 150 mg/kg  
Method: OECD Test Guideline 402

### bis(isopropyl)naphthalene:

Acute oral toxicity : LD50 (Rat, male and female): 4 130 - 4 320 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): > 5,64 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat, male and female): > 4 500 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:

Acute oral toxicity : LD50 (Rat): 910 mg/kg  
Method: OECD Test Guideline 401

Acute toxicity estimate: 910 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

### 3-aminopropyltriethoxysilane:

Acute oral toxicity : LD50 (Rat, male and female): 1 491 - 2 688 mg/kg  
Method: Acute Oral Toxicity

Acute toxicity estimate: 1 491 mg/kg  
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat, male): > 5 ppm  
Exposure time: 6 h

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**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® 2015-1 HARDENER

Version 2.0      Revision Date: 06.11.2023      SDS Number: 400000004944      Date of last issue: 31.05.2022  
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Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit, male and female): 4 075 mg/kg  
Method: Acute Dermal Toxicity  
Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

Causes severe burns.

### Components:

#### **2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated:**

Species : Rabbit  
Assessment : Moderate skin irritant  
Result : Irritating to skin.

#### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Species : Rabbit  
Exposure time : 72 h  
Method : OECD Test Guideline 404  
Result : Irritating to skin.

#### **bis(isopropyl)naphthalene:**

Species : Rabbit  
Exposure time : 4 h  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : Normally reversible injuries

#### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Species : Rabbit  
Assessment : Causes severe burns.  
Result : Corrosive after 3 minutes or less 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

#### **3-aminopropyltriethoxysilane:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Causes burns.

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### Serious eye damage/eye irritation

Causes serious eye damage.

#### Components:

#### **2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated:**

Species	:	Rabbit
Assessment	:	Mild eye irritant
Result	:	slight irritation

#### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Species	:	Rabbit
Result	:	Eye irritation

#### **bis(isopropyl)naphthalene:**

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

#### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Corrosive

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

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

#### **3-aminopropyltriethoxysilane:**

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Risk of serious damage to eyes.

### Respiratory or skin sensitisation

#### **Skin sensitisation**

May cause an allergic skin reaction.

#### **Respiratory sensitisation**

Not classified due to lack of data.

#### Components:

#### **2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated:**

Exposure routes	:	Skin
Species	:	Guinea pig
Method	:	OECD Test Guideline 406

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Result : May cause sensitisation by skin contact.

### Reaction mass of trientine and trientine, mono- and di-propoxylated:

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

### bis(isopropyl)naphthalene:

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

Assessment : May be harmful if swallowed or if inhaled.  
Does not cause skin sensitisation.

### 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:

Exposure routes : Skin  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : The product is a skin sensitiser, sub-category 1A.

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

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

### 3-aminopropyltriethoxysilane:

Exposure routes : Skin  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : The product is a skin sensitiser, sub-category 1B.

### Germ cell mutagenicity

Not classified due to lack of data.

### Components:

### Reaction mass of trientine and trientine, mono- and di-propoxylated:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes



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Test Type: Ames test  
Test system: Salmonella typhimurium  
Method: OECD Test Guideline 471  
Result: positive  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

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

### **bis(isopropyl)naphthalene:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Concentration: 9.5 - 60 µg/L  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: 92 mg/plate  
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  
Concentration: 40 - 60 mg/ml  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Application Route: Intraperitoneal injection  
Dose: 1.92 g/kg  
Method: OECD Test Guideline 474  
Result: negative

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

### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: 5000 µg/plate  
Metabolic activation: with and without metabolic activation  
Method: Directive 67/548/EEC, Annex, B.13/14  
Result: negative

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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

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Concentration: 2 mg/ml  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Species: Chinese hamster (male and female)  
Cell type: Bone marrow  
Application Route: Oral  
Dose: 825 - 1000 mg/kg  
Method: OECD Test Guideline 474  
Result: negative

Test Type: In vivo micronucleus test  
Species: Mouse (male and female)  
Application Route: Oral  
Dose: 850 - 1000 mg/kg  
Method: OECD Test Guideline 474  
Result: negative

### **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

### **3-aminopropyltriethoxysilane:**

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative

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### **Carcinogenicity**

Not classified due to lack of data.

### **Reproductive toxicity**

Not classified due to lack of data.

### **Components:**

#### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Effects on fertility : Test Type: Fertility  
Species: Rat, male and female  
Strain: wistar  
Application Route: Ingestion  
Dose: 100, 300 and 750 milligram per kilogram  
General Toxicity - Parent: NOAEL: Measured 750 mg/kg body weight  
General Toxicity F1: NOAEL: Measured 750 mg/kg body weight  
Method: OECD Test Guideline 422  
GLP: yes

Effects on foetal development : Species: Rat, male and female  
Strain: wistar  
Application Route: Ingestion  
Dose: 100, 300 and 750 milligram per kilogram  
General Toxicity Maternal: NOAEL: Measured 300 mg/kg body weight  
Developmental Toxicity: NOAEL: Measured 750 mg/kg body weight  
Method: OECD Test Guideline 422  
GLP: yes

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

#### **bis(isopropyl)naphthalene:**

Effects on foetal development : Species: Rat, female  
Application Route: Oral  
Dose: 100, 250, 625 mg/kg  
Duration of Single Treatment: 20 d  
Frequency of Treatment: 7 days/week  
General Toxicity Maternal: LOAEL: 250 mg/kg body weight  
Teratogenicity: NOAEL: 625 mg/kg body weight  
Embryo-foetal toxicity: NOAEL: 625 mg/kg body weight  
Method: Directive 67/548/EEC, Annex V, B.31.  
Result: No teratogenic effects

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

#### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Dose: 10, 60, 120 mg/kg bw/day

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Method: OECD Test Guideline 416  
Result: No effects on fertility and early embryonic development were detected.

Effects on foetal development : Species: Rabbit, female  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 50 000 ppm  
Result: No teratogenic effects

### **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**

Not classified due to lack of data.

### **STOT - repeated exposure**

Not classified due to lack of data.

### **Components:**

#### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Exposure routes : Ingestion  
Target Organs : Kidney  
Assessment : No significant health effects observed at a concentration of 300mg/kg bw/day.

### **Repeated dose toxicity**

### **Components:**

#### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Species : Rat, male and female  
NOAEL : 300 mg/kg bw/d  
Application Route : Ingestion  
Exposure time : 43 - 44 Days  
Method : OECD Test Guideline 422

### **bis(isopropyl)naphthalene:**

Species : Rat, male and female  
NOAEL : 170 mg/kg  
Application Route : oral (feed)  
Exposure time : 4 320 h  
Number of exposures : 7 d  
Dose : 170, 340, and 670 mg/kg  
Method : Subchronic toxicity  
Remarks : No significant adverse effects were reported

Repeated dose toxicity - Assessment : May be harmful if swallowed or if inhaled.  
No adverse effect has been observed in chronic toxicity tests.

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### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Species : Rat, male and female  
NOAEL : 10 mg/kg bw/day  
Application Route : Ingestion  
Exposure time : 13 Weeks  
Number of exposures : Daily  
Dose : 10, 60, 180mg/kg bw  
Target Organs : Liver

Species : Rat, male and female  
LOAEL : 60 mg/kg bw/day  
Application Route : Ingestion  
Exposure time : 13 Weeks  
Number of exposures : Daily  
Dose : 10, 60, 180mg/kg bw  
Target Organs : Liver

### **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

### **3-aminopropyltriethoxysilane:**

Species : Rat, male and female  
NOAEL : 200 mg/kg  
Application Route : Ingestion  
Exposure time : 2 160 h  
Method : Subchronic toxicity

### **Aspiration toxicity**

Not classified due to lack of data.

### **Components:**

#### **bis(isopropyl)naphthalene:**

May be fatal if swallowed and enters airways.

## 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

### **Experience with human exposure**

No data available

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### Toxicology, Metabolism, Distribution

No data available

### Neurological effects

No data available

### Further information

No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### **2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1 000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (No information available.): > 1 000 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

#### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): Measured > 4,1 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: yes

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

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (algae)): Measured 4,1 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 201  
GLP: yes

ErC10 (Pseudokirchneriella subcapitata (algae)): Measured 0,11 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 201

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GLP: yes

Toxicity to microorganisms : EC10 (activated sludge): 38 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 209

### **bis(isopropyl)naphthalene:**

Toxicity to fish : LC50 : > 0,5 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: Directive 67/548/EEC, Annex V, C.1.  
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0,16 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
Remarks: No toxicity at the limit of solubility

EL50 (Daphnia magna (Water flea)): 1,7 mg/l  
Exposure time: 48 h  
Test Type: semi-static test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOECr (Desmodesmus subspicatus (green algae)): ca. 0,15 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: DIN 38412  
Remarks: Aquatic toxicity is unlikely due to low solubility.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,013 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

M-Factor (Chronic aquatic toxicity) : 1

### **Ecotoxicology Assessment**

Acute aquatic toxicity : No toxicity at the limit of solubility

### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 174 mg/l  
Exposure time: 48 h  
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 31,5 mg/l  
Exposure time: 24 h

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Method: DIN 38412

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (algae)): 43,5 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (algae)): 37,1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 16 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to microorganisms : IC50 (Pseudomonas putida): 89 mg/l  
Exposure time: 17 h

Toxicity to fish (Chronic toxicity) : NOEC: 10,9 mg/l  
Exposure time: 30 d  
Species: Brachydanio rerio (zebrafish)  
Method: OECD Test Guideline 210

Lowest Observed Effect Concentration: 10,9 mg/l  
Exposure time: 30 d  
Species: Brachydanio rerio (zebrafish)  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,02 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

Lowest Observed Effect Concentration: 1,02 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

Toxicity to soil dwelling organisms : NOEC:  $\geq$  1 000 mg/kg  
Exposure time: 56 d  
Species: Eisenia fetida (earthworms)  
Method: OECD Test Guideline 222

EC50:  $\geq$  1 000 mg/kg  
Exposure time: 56 d  
Species: Eisenia fetida (earthworms)  
Method: OECD Test Guideline 222

### 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 : LC50 (Palaeomonetes vulgaris (Grass shrimp)): 718 mg/l



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- aquatic invertebrates      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
- 3-aminopropyltriethoxysilane:**
- Toxicity to fish      :    LC50 (Brachydanio rerio (zebrafish)): > 934 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)): 331 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 (Desmodesmus subspicatus (green algae)): > 1 000 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: Directive 67/548/EEC, Annex V, C.3.
- Toxicity to microorganisms      :    EC50 (Pseudomonas putida): 43 mg/l  
Exposure time: 5,75 h  
Test Type: static test  
Test substance: Fresh water

### 12.2 Persistence and degradability

#### Components:

**2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperaziny)ethyl]amino]butyl-terminated:**

Biodegradability      :    Result: Not readily biodegradable.

**Reaction mass of trientine and trientine, mono- and di-propoxylated:**

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Biodegradability : Inoculum: Domestic sewage  
Concentration: 100 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

Stability in water : Degradation half life (DT50): > 1 yr (25 °C)  
pH: 4  
Method: OECD Test Guideline 111  
  
Degradation half life (DT50): > 1 yr (25 °C)  
pH: 7  
Method: OECD Test Guideline 111  
  
Degradation half life (DT50): > 1 yr (25 °C)  
pH: 9  
Method: OECD Test Guideline 111

### **bis(isopropyl)naphthalene:**

Biodegradability : Inoculum: activated sludge  
Concentration: 0,2 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 30 - 35 %  
Exposure time: 56 d  
Method: OECD Test Guideline 310

### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Biodegradability : Inoculum: activated sludge  
Concentration: 11,4 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 7 %  
Exposure time: 28 d

### **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

### **3-aminopropyltriethoxysilane:**

Biodegradability : Inoculum: activated sludge  
Concentration: 8,95 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 67 %  
Exposure time: 28 d  
Method: Directive 67/548/EEC Annex V, C.4.A.

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### 12.3 Bioaccumulative potential

#### Components:

##### **Reaction mass of trientine and trientine, mono- and di-propoxylated:**

Partition coefficient: n-octanol/water : log Pow: -2,42

##### **bis(isopropyl)naphthalene:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Exposure time: 60 d  
Bioconcentration factor (BCF): 770 - 6 400  
Test substance: Fresh water  
Method: flow-through test

Partition coefficient: n-octanol/water : log Pow: 6,081  
Method: QSAR

##### **2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine:**

Partition coefficient: n-octanol/water : log Pow: -0,3 (25 °C)  
Method: OECD Test Guideline 117

##### **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

##### **3-aminopropyltriethoxysilane:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 3,4  
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 1,7 (20 °C)  
pH: 7

### 12.4 Mobility in soil

#### Components:

##### **bis(isopropyl)naphthalene:**

Distribution among environmental compartments : Koc: 36108  
Method: QSAR

### 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.

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### Components:

#### Reaction mass of trientine and trientine, mono- and di-propoxylated:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

### 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.  
Harmful to aquatic life.  
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

ADN	: UN 2735
ADR	: UN 2735
RID	: UN 2735
IMDG	: UN 2735
IATA	: UN 2735

### 14.2 UN proper shipping name

ADN : POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
(TRIMETHYLHEXAMETHYLENEDIAMINE, 2,4,6-TRIS(DIMETHYL AMINOMETHYL)PHENOL)

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**ADR** : POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
(TRIMETHYLHEXAMETHYLENEDIAMINE, 2,4,6-  
TRIS(DIMETHYL AMINOMETHYL)PHENOL)

**RID** : POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
(TRIMETHYLHEXAMETHYLENEDIAMINE, 2,4,6-  
TRIS(DIMETHYL AMINOMETHYL)PHENOL)

**IMDG** : POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
(TRIMETHYLHEXAMETHYLENEDIAMINE, 2,4,6-  
TRIS(DIMETHYL AMINOMETHYL)PHENOL)

**IATA** : Polyamines, liquid, corrosive, n.o.s.  
(TRIMETHYLHEXAMETHYLENEDIAMINE, 2,4,6-  
TRIS(DIMETHYL AMINOMETHYL)PHENOL)

### 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

**ADN**  
Packing group : III  
Classification Code : C7  
Hazard Identification Number : 80  
Labels : 8

**ADR**  
Packing group : III  
Classification Code : C7  
Hazard Identification Number : 80  
Labels : 8  
Tunnel restriction code : (E)

**RID**  
Packing group : III  
Classification Code : C7  
Hazard Identification Number : 80  
Labels : 8

**IMDG**  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 856  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

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### IATA (Passenger)

Packing instruction (passenger aircraft) : 852  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes(DIISOPROPYLNAPHTHALENE ISOMERS, TRIETHYLENE TETRAMINE PROPOXYLATED)

### 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.

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.

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

Water hazard class (Germany) : WGK 3 highly hazardous to water  
Classification according to AwSV, Annex 1 (5.2)

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### 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	: All components of this product are on the Canadian DSL
AIIC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or 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

### Inventories

AICS (Australia), AIIC (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.
H304	: May be fatal if swallowed and enters airways.
H314	: Causes severe skin burns and eye damage.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H410	: Very toxic to aquatic life with long lasting effects.

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H411 : Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Asp. Tox. : Aspiration hazard  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Skin Corr. : Skin corrosion  
Skin Irrit. : Skin irritation  
Skin Sens. : Skin sensitisation  
DE TRGS 527 : Germany. TRGS 527 - Activities with nanomaterials  
DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.  
DE TRGS 527 / BM : Assessment scale  
DE TRGS 900 / AGW : Time Weighted Average

### Further information

#### Classification of the mixture:

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

#### Classification procedure:

Calculation method  
Calculation method  
Calculation method  
Calculation method

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