

**ARALDITE® RAPID G RESIN**

Version	Revision Date:	SDS Number:	Date of last issue: 06.12.2017
1.1	02.08.2018	400001021215	Date of first issue: 06.12.2017

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

**1.1 Product identifier**

Trade name : ARALDITE® RAPID G RESIN

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

Use of the Substance/Mixture : Epoxy constituents

**1.3 Details of the supplier of the safety data sheet**

Company : Huntsman Advanced Materials (Europe)BVBA  
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 : 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 irritation, Category 2 H315: Causes skin irritation.

Eye irritation, Category 2 H319: Causes serious eye irritation.

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.

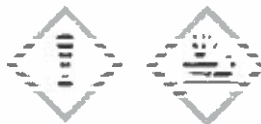
**2.2 Label elements**

Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P261 Avoid breathing mist or vapours.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P391 Collect spillage.

Hazardous components which must be listed on the label:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

1,4-bis(2,3-epoxypropoxy)butane

**2.3 Other hazards**

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

**SECTION 3: Composition/Information on Ingredients**

**3.2 Mixtures**

**Hazardous components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Skin Irrit. 2; H315	>= 70 -
	216-823-5	Eye Irrit. 2; H319	< 90
	603-073-00-2	Skin Sens. 1; H317	
	01-2119456619-26	Aquatic Chronic 2; H411	
1,4-Bis(2,3-epoxypropoxy)butane	2425-79-8	Eye Dam. 1; H318	>= 3 - <
	219-371-7	Acute Tox. 4; H302	10
	603-072-00-7	Acute Tox. 4; H332	
	01-2119494060-45	Acute Tox. 4; H312 Skin Irrit. 2; H315 Skin Sens. 1; H317	

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		Aquatic Chronic 3; H412	
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For explanation of abbreviations see section 16.

Both 25068-38-6 and 1675-54-3 can be used to describe the epoxy resin which is produced through the reaction of Bisphenol A and Epichlorohydrin

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

- |                         |  |
|-------------------------|--|
| General advice          | : Move out of dangerous area.<br>Show this safety data sheet to the doctor in attendance.<br>Treat symptomatically.<br>Get medical attention if symptoms occur.      |
| If inhaled              | : If inhaled, remove to fresh air.<br>Get medical attention if symptoms occur.   |
| In case of skin contact | : If skin irritation persists, call a physician.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes.   |
| In case of eye contact  | : Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist. |
| If swallowed            | : Keep respiratory tract clear.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.                                  |

**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   | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : High volume water jet   |

**5.2 Special hazards arising from the substance or mixture**

- |                                      |   |
|--------------------------------------|---|
| Specific hazards during firefighting | : Do not allow run-off from fire fighting to enter drains or water courses. |
|--------------------------------------|---|

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according to Regulation (EC) No. 1907/2006

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Hazardous combustion products : Carbon oxides

### 5.3 Advice for firefighters

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

Specific extinguishing methods : No data is available on the product itself.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective 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.

### 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 : Do not breathe vapours or spray mist.  
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.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not

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be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**7.2 Conditions for safe storage, 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. Keep in properly labelled containers.

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

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**

Contains no substances with occupational exposure limit values.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Workers	Dermal	Systemic effects, Short-term exposure	8.33 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Short-term exposure	12.25 mg/m3
	Workers	Dermal	Systemic effects, Long-term exposure	8.33 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Long-term exposure	12.25 mg/m3
	Consumers	Dermal	Systemic effects, Short-term exposure	3.571 mg/kg bw/day

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	Consumers	Oral	Systemic effects, Short-term exposure	0.75 mg/kg bw/day
	Consumers	Dermal	Systemic effects, Long-term exposure	3.571 mg/kg bw/day
	Consumers	Oral	Systemic effects, Long-term exposure	0.75 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Fresh water	0.006 mg/l
Remarks:	Assessment Factors	
	Marine water	0.0006 mg/l
	Assessment Factors	
	Freshwater - intermittent	0.018 mg/l
	Assessment Factors	
	Fresh water sediment	0.996 mg/kg
	Equilibrium method	
	Marine sediment	0.0996 mg/kg
	Equilibrium method	
	Soil	0.196 mg/kg
	Equilibrium method	
	Sewage treatment plant	10 mg/l
	Assessment Factors	
	Secondary Poisoning	11 mg/kg

**8.2 Exposure controls****Personal protective equipment**

Eye 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 : Solvent-resistant gloves (butyl-rubber)

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

Material : Neoprene gloves

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Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	: Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**SECTION 9: Physical and chemical properties**

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

Appearance	: liquid
Colour	: No data is available on the product itself.
Odour	: No data is available on the product itself.
Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: No data is available on the product itself.
Flash point	: No data is available on the product itself.
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Burning rate	: 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	: No data is available on the product itself.
Solubility(ies) Water solubility	: No data is available on the product itself.



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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	: No data is available on the product itself.
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.

**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.

**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

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

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

Acute inhalation toxicity - Product : Acute toxicity estimate : > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist



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Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 2,000 mg/kg  
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

**Skin corrosion/irritation****Product:**

Species: Rabbit  
Result: Skin irritation

Remarks: May cause skin irritation and/or dermatitis.

**Serious eye damage/eye Irritation****Product:**

Species: Not Assigned  
Method: OECD Test Guideline 437  
Result: Eye irritation

Remarks: May cause irreversible eye damage.

**Respiratory or skin sensitisation****Components:**

2,2'-[[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Exposure routes: Skin  
Species: Mouse  
Assessment: May cause sensitisation by skin contact.  
Method: OECD Test Guideline 429  
Result: Causes sensitisation.

1,4-bis(2,3-epoxypropoxy)butane:  
Exposure routes: Skin  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: May cause sensitisation by skin contact.

Assessment: No data available

**Germ cell mutagenicity****Components:**

2,2'-[[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: positive

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: Concentration: 0 - 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: positive

1,4-bis(2,3-epoxypropoxy)butane:  
Genotoxicity in vitro

: Concentration: 10 - 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: positive  
Remarks: Not classified due to data which are conclusive  
although insufficient for classification.

: Concentration: 1 - 100 µg/L  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: positive  
Remarks: Not classified due to data which are conclusive  
although insufficient for classification.

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Genotoxicity in vivo

: Cell type: Germ  
Application Route: Oral  
Method: OECD Test Guideline 478  
Result: negative

Cell type: Somatic  
Application Route: Oral  
Dose: 0 - 5000 mg/kg  
Method: OPPTS 870.5395  
Result: negative

1,4-bis(2,3-epoxypropoxy)butane:  
Genotoxicity in vivo

: Test Type: In vivo micronucleus test  
Test species: Mouse  
Cell type: Somatic  
Application Route: Oral  
Exposure time: 4-d  
Dose: 187.5 - 750 mg/kg  
Method: OECD Test Guideline 474  
Result: negative

Test Type: unscheduled DNA synthesis assay  
Test species: Rat  
Cell type: Liver cells  
Application Route: Oral

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Method: OECD Test Guideline 486

Result: negative

**Components:**

1,4-bis(2,3-epoxypropoxy)butane:

Germ cell mutagenicity-  
Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Germ cell mutagenicity-  
Assessment : No data available

**Carcinogenicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

Application Route: Oral

Exposure time: 24 month(s)

Dose: 15 mg/kg

Frequency of Treatment: 7 days/week

Method: OECD Test Guideline 453

Result: negative

Species: Mouse, male

Application Route: Dermal

Exposure time: 24 month(s)

Dose: 0.1 mg/kg

Frequency of Treatment: 3 days/week

Method: OECD Test Guideline 453

Result: negative

Species: Rat, female

Application Route: Dermal

Exposure time: 24 month(s)

Dose: 1 mg/kg

Frequency of Treatment: 5 days/week

Method: OECD Test Guideline 453

Result: negative

Carcinogenicity -  
Assessment : No data available

**Reproductive toxicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on fertility : Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
Dose: >750 milligram per kilogram  
General Toxicity - Parent: No-observed-effect level: 540 mg/kg body weight

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General Toxicity F1: No-observed-effect level: 540 mg/kg body weight  
Symptoms: No adverse effects  
Method: OECD Test Guideline 416  
Result: No effects on fertility and early embryonic development were detected.

### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on foetal development : Species: Rabbit, female  
Application Route: Dermal  
General Toxicity Maternal: No observed adverse effect level: 30 mg/kg body weight  
Method: Other guidelines  
Result: No teratogenic effects

Species: Rabbit, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level: 60 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level: 180 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Reproductive toxicity - Assessment : No data available

### STOT - single exposure

No data available

### STOT - repeated exposure

No data available

### Repeated dose toxicity

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female  
NOAEL: 50 mg/kg  
Application Route: Ingestion  
Exposure time: 14 Weeks Number of exposures: 7 d  
Method: Subchronic toxicity

Species: Rat, male and female  
NOEL: 10 mg/kg  
Application Route: Skin contact

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Exposure time: 13 WeeksNumber of exposures: 5 d  
Method: Subchronic toxicity

Species: Mouse, male  
NOAEL: 100 mg/kg  
Application Route: Skin contact  
Exposure time: 13 WeeksNumber of exposures: 3 d  
Method: Subchronic toxicity

1,4-bis(2,3-epoxypropoxy)butane:  
Species: Rat, male and female  
NOAEL: 200 mg/kg  
Application Route: Ingestion  
Exposure time: 28 dNumber of exposures: 7 d  
Method: Subacute toxicity

Repeated dose toxicity - : No data available  
Assessment

**Aspiration toxicity**  
No data available

**Experience with human exposure**  
General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

**Toxicology, Metabolism, Distribution**  
No data available

**Neurological effects**  
No data available

**Further information**  
Ingestion: No data available

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 9.4 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: EPA-660/3-75-009

Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.3 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 211

1,4-bis(2,3-epoxypropoxy)butane:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 24 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 75 mg/l  
Exposure time: 24 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

Toxicity to algae : EL50 : > 160 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 201

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Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 209

**12.2 Persistence and degradability****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Biodegradability : Inoculum: Sewage (STP effluent)  
Concentration: 20 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

Stability in water : Degradation half life (DT50): 4.83 d (25 °C)  
pH: 4  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life (DT50): 7.1 d (25 °C)  
pH: 9  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life (DT50): 3.58 d (25 °C)  
pH: 7  
Method: OECD Test Guideline 111  
Remarks: Fresh water

1,4-bis(2,3-epoxypropoxy)butane:

Biodegradability : Inoculum: activated sludge  
Concentration: 20 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 43 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

**12.3 Bioaccumulative potential****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Bioaccumulation : Bioconcentration factor (BCF): 31  
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.242 (25 °C)  
pH: 7.1  
Method: OECD Test Guideline 117

1,4-bis(2,3-epoxypropoxy)butane:

Partition coefficient: n-octanol/water : log Pow: -0.269 (25 °C)  
pH: 6.7



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## ARALDITE® RAPID G RESIN

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Method: OECD Test Guideline 117

### 12.4 Mobility in soil

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Distribution among environmental compartments : Koc: 445

1,4-bis(2,3-epoxypropoxy)butane:

Distribution among environmental compartments : Koc: 12.59  
Method: OECD Test Guideline 121

### 12.5 Results of PBT and vPvB assessment

#### Product:

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

### 12.6 Other adverse effects

#### Product:

Additional ecological 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 : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and national regulations.  
Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

## SECTION 14: Transport information

#### IATA

14.1 UN number : UN 3082

14.2 UN proper shipping : Environmentally hazardous substance, liquid, n.o.s.

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**name**

(BISPHENOL A EPOXY RESIN)

**14.3 Transport hazard** : 9**class(es)****14.4 Packing group** : III

Labels : Miscellaneous

Packing instruction (cargo

aircraft) : 964

Packing instruction

(passenger aircraft)

: 964

**IATA (Passenger)**

Environmentally hazardous : yes

**IATA (Cargo)**

Environmentally hazardous : yes

**IMDG****14.1 UN number** : UN 3082**14.2 UN proper shipping** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
**name** N.O.S.

(BISPHENOL A EPOXY RESIN)

**14.3 Transport hazard** : 9**class(es)****14.4 Packing group** : III

Labels : 9

EmS Code : F-A, S-F

**14.5 Environmental hazards**

Marine pollutant : yes

**ADR****14.1 UN number** : UN 3082**14.2 UN proper shipping** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
**name** N.O.S.

(BISPHENOL A EPOXY RESIN)

**14.3 Transport hazard** : 9**class(es)****14.4 Packing group** : III

Labels : 9

**14.5 Environmental hazards**

Environmentally hazardous : yes

**RID****14.1 UN number** : UN 3082**14.2 UN proper shipping** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
**name** N.O.S.

(BISPHENOL A EPOXY RESIN)

**14.3 Transport hazard** : 9**class(es)****14.4 Packing group** : III

Labels : 9

**14.5 Environmental hazards**

Environmentally hazardous : yes

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

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

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

#### Other regulations:

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

#### The components of this product are reported in the following inventories:

DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not 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	: On the inventory, or 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	: On the inventory, or in compliance with the inventory

#### Inventories

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

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### 15.2 Chemical safety assessment

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

## SECTION 16: Other Information

### Full text of H-Statements

H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation

### Further Information

#### Classification of the mixture:

Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 2	H411

#### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method

While 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.

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

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

**1.1 Product identifier**

Trade name : ARALDITE® RAPID G HARDENER

**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)BVBA  
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 : 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)**

Eye irritation, Category 2 H319: Causes serious eye irritation.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Long-term (chronic) aquatic hazard, Category 3 H412: Harmful to aquatic life with long lasting effects.

**2.2 Label elements**

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

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Hazard pictograms



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P261 Avoid breathing mist or vapours.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

Hazardous components which must be listed on the label:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine

N,N,4-trimethylpiperazine-1-ethylamine

**2.3 Other hazards**

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

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration-number	Classification	Concentration (% w/w)
2,2'-(1,2-Ethanediybis(oxy))bis(ethanethiol)	14970-87-7 239-044-2 -	Acute Tox. 4; H302 Acute Tox. 4; H332 Aquatic Chronic 2; H411	>= 2.5 - < 10
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	10563-29-8 234-148-4 01-2119970376-29	Acute Tox. 4; H302 Skin Corr. 1A; H314 Skin Sens. 1B; H317	>= 1 - < 3
2,4,6-Tris(dimethylaminomethyl)pheno	90-72-2 202-013-9	Skin Corr. 1C; H314 Eye Dam. 1; H318	>= 1 - < 3



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I	603-069-00-0 01-2119560597-27		
N,N,4-trimethylpiperazine-1-ethylamine	104-19-8 203-183-7 -	Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 1 - < 2.5

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Treat symptomatically.  
Get medical attention if symptoms occur.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

**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 : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing : High volume water jet

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media

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: No hazardous combustion products are known

**5.3 Advice for firefighters**

Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.
Specific extinguishing methods	: No data is available on the product itself.
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**SECTION 6: Accidental release measures**

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

Personal precautions	: Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.
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**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	: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
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**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	: Do not breathe vapours or spray mist. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8.
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Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**7.2 Conditions for safe storage, 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. Keep in properly labelled containers.

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

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
n-butyl acetate	123-86-4	TWA	150 ppm 724 mg/m <sup>3</sup>	GB EH40
		STEL	200 ppm 966 mg/m <sup>3</sup>	GB EH40

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

Substance name	End Use	Exposure routes	Potential health effects	Value
N'-(3-aminopropyl)-N,N-dimethylpropane-	Workers	Inhalation	Long-term systemic	3.7 mg/m <sup>3</sup>

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1,3-diamine			effects	
	Workers	Inhalation	Acute systemic effects	7.5 mg/m3
	Workers	Inhalation	Long-term local effects	3.7 mg/m3
	Workers	Inhalation	Acute local effects	7.5 mg/m3
	Workers	Dermal	Long-term systemic effects	0.67 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.65 mg/m3
	Consumers	Inhalation	Long-term local effects	0.65 mg/m3
	Consumers	Oral	Long-term systemic effects	0.2 mg/kg

**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	0.084 mg/l
Remarks:	Assessment Factors	
	Marine water	0.0084 mg/l
	Assessment Factors	
	Sewage treatment plant	0.2 mg/l
	Assessment Factors	
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	Fresh water	9.2 µg/l
	Assessment Factors	
	Marine water	0.92 µg/l
	Assessment Factors	
	Freshwater - intermittent	92 µg/l
	Assessment Factors	
	Sewage treatment plant	18.1 mg/l
	Assessment Factors	
	Fresh water sediment	0.0336 mg/kg
	Equilibrium method	
	Marine sediment	0.00336 mg/kg
	Equilibrium method	
	Soil	0.00132 mg/kg
	Equilibrium method	

**8.2 Exposure controls**

**Personal protective equipment**

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Eye protection	: Eye wash bottle with pure water Tightly fitting safety goggles
Hand protection	
Material	: butyl-rubber
Break through time	: > 8 h
Material	: Solvent-resistant gloves (butyl-rubber)
Material	: Nitrile rubber
Break through time	: 10 - 480 min
Material	: Neoprene gloves
Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	: Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: yellow
Odour	: slight
Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
	: > 200 °C
Flash point	: 100 °C
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Burning rate	: 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	: No data is available on the product itself.

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flammability limit

Vapour pressure : < 0.001 kPa

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

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

Density : 1.165 g/cm<sup>3</sup>

Solubility(ies)

Water solubility : practically 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.

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

Decomposition temperature : No data is available on the product itself.

Viscosity

Viscosity, dynamic : 20,000 - 40,000 mPa.s (25 °C)

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

**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.

**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 hazardous decomposition products are known.

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### SECTION 11: Toxicological Information

#### 11.1 Information on toxicological effects

##### Acute toxicity

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

Acute inhalation toxicity - Product : Acute toxicity estimate : > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 2,000 mg/kg  
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

##### Skin corrosion/irritation

###### Product:

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Mild skin irritation

##### Serious eye damage/eye irritation

###### Product:

Species: Rabbit  
Result: Mild eye irritation

##### Respiratory or skin sensitisation

###### Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:  
Exposure routes: Skin  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: The product is a skin sensitiser, sub-category 1B.

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

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

N,N,4-trimethylpiperazine-1-ethylamine:  
Result: May cause sensitisation by skin contact.

Assessment: No data available



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### Germ cell mutagenicity

#### Components:

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

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 487  
Result: negative

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

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

Genotoxicity in vivo : No data available

### Carcinogenicity

#### Components:

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

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

Carcinogenicity - Assessment : No data available

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**Reproductive toxicity****Components:****N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:**

Effects on fertility

: Species: Rat, male and female  
Application Route: Oral  
Method: OECD Test Guideline 422  
Result: Animal testing did not show any effects on fertility.

**2,4,6-Tris(dimethylaminomethyl)phenol:**

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

**Components:****N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:**Effects on foetal  
development

: Species: Rat, male and female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
15 mg/kg body weight  
Developmental Toxicity: No observed adverse effect level: 15  
mg/kg body weight  
Embryo-foetal toxicity: No observed adverse effect level: 15  
mg/kg body weight  
Method: OECD Test Guideline 422  
Result: No effects on fertility and early embryonic  
development were detected.

**Components:****N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:**Reproductive toxicity -  
Assessment

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

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated-dose toxicity****Components:****N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:**

Species: Rat, male and female

NOEC: 550

Application Route: Ingestion

Test atmosphere: vapour

Exposure time: 3 Weeks Number of exposures: 7 d

Method: Subchronic toxicity

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Species: Mouse, male  
NOAEL:  $\geq 56.3$   
Application Route: Skin contact  
Exposure time: 20 h Number of exposures: 3 d  
Method: Chronic toxicity

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

Repeated dose toxicity - : No data available  
Assessment

**Aspiration toxicity**  
No data available

**Experience with human exposure**  
General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

**Toxicology, Metabolism, Distribution**  
No data available

**Neurological effects**  
No data available

**Further information**  
Ingestion: No data available

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Components:**

2,2'-(1,2-Ethanediy)bis(oxy)bis(ethanethiol):

Ecotoxicology Assessment

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

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

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic Invertebrates : EC50 (Daphnia magna (Water flea)): 9.2 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 21 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Pseudomonas putida): 181 mg/l  
Exposure time: 16 h  
Test Type: static test  
Test substance: Fresh water  
Method: DIN 38 412 Part 8

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 : 718 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Marine water

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): 84 mg/l  
Exposure time: 72 h  
Test Type: static test  
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

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Test substance: Fresh water  
Method: OECD Test Guideline 201

Ecotoxicology Assessment  
Chronic aquatic toxicity : This product has no known ecotoxicological effects.

N,N,4-trimethylpiperazine-1-ethylamine:  
Ecotoxicology Assessment  
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

#### Components:

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

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 100 %  
Exposure time: 28 d  
Method: ISO

2,4,6-Tris(dimethylaminomethyl)phenol:

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

### 12.3 Bioaccumulative potential

#### Components:

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

Partition coefficient: n-octanol/water : log Pow: 0.5

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

2,4,6-Tris(dimethylaminomethyl)phenol:

Partition coefficient: n-octanol/water : log Pow: 0.219 (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..

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**12.6 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 with long lasting effects.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

: The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and national regulations.  
Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging

: Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14: Transport Information**

**IATA**

Not regulated as dangerous goods

**IMDG**

Not regulated as dangerous goods

**ADR**

Not regulated as dangerous goods

**RID**

Not regulated as dangerous goods

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

Not applicable for product as supplied.

**SECTION 15: Regulatory information**

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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

REACH - List of substances subject to authorisation - Future sunset date : Not applicable

Other regulations:

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

The components of this product are reported in the following inventories:

DSL : This product contains one or several components that are not on the Canadian DSL nor NDSL.

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

NZIoC : Not 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 : On the inventory, or 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 : On the inventory, or in compliance with the inventory

### Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOIC (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



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H302	: Harmful if swallowed.
H311	: Toxic in contact with skin.
H314	: Causes severe skin burns and eye damage.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H332	: Harmful if inhaled.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Skin Corr.	: Skin corrosion
Skin Sens.	: Skin sensitisation
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)

### Further information

#### Classification of the mixture:

Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 3	H412

#### Classification procedure:

Based on product data or assessment  
Calculation method  
Calculation method

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