

# SAFETY DATA SHEET

ARALDITE® 2012 HARDENER/HAERTER/DURCISSEUR



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

### 1.1 Product identifier

**Product name** : ARALDITE® 2012 HARDENER/HAERTER/DURCISSEUR  
**Registration number** : Not available.  
**Product code** : 00052655  
**Product description** :  
**Other means of identification** : Not available.

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

**Product use** : Component for adhesive applications

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

**Supplier** : Huntsman Advanced Materials (Europe)BVBA  
Everslaan 45  
3078 Everberg / Belgium  
Tel.: +41 61 299 20 41  
Fax: +41 61 299 20 40

**e-mail address of person responsible for this SDS** : Global\_Product\_EHS\_AdMat@huntsman.com

E-mail address to request full REACH registration number upon EU member State Authority request :  
REACH\_Registration\_Nr\_AM@huntsman.com

### 1.4 Emergency telephone number

#### Supplier

**Telephone number** : EUROPE: +32 35 75 1234  
France ORFILA: +33(0)145425959  
ASIA: +65 6336-6011  
China: +86 20 39377888  
India: +91 22 4050 6333  
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

**Product definition** : Mixture

#### Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Xi; R36  
R43  
R52/53

**Human health hazards** : Irritating to eyes. May cause sensitisation by skin contact.

**Environmental hazards** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****2/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 2: Hazards identification**

**Additional information** : According to Directive 99/45/EC, Article 6, Paragraph 1b, classification derived from direct toxicological testing of the preparation take precedence over classification derived from using the conventional (calculation) method.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

**2.2 Label elements**

**Hazard symbol or symbols** :



**Indication of danger** : Irritant

**Risk phrases** : R36- Irritating to eyes.  
R43- May cause sensitisation by skin contact.  
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases** : S24- Avoid contact with skin.  
S37- Wear suitable gloves.

**Hazardous ingredients** : N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine  
N,N,4-Trimethylpiperazine-1-ethylamine

**Supplemental label elements** : Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

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

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

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	<u>Classification</u>		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
2,2'-[1,2-Ethanediy]bis (oxy)]bis(ethanethiol)	CAS: 14970-87-7 EC: 239-044-2	1-3	Xn; R20/22 N; R51/53	Acute Tox. 4, H302 Acute Tox. 4, H332 Aquatic Chronic 2, H411	[1]
N'-(3-Aminopropyl)-N, N-dimethylpropane-1, 3-diamine	CAS: 10563-29-8 EC: 234-148-4	1-3	Xn; R21/22 C; R35 R43	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	[1]
2,4,6-tris (dimethylaminomethyl) phenol	CAS: 90-72-2 EC: 202-013-9	1-3	Xn; R22 C; R34 R52/53	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412	[1]

**Date of issue / Date of revision** : 11/11/2013.

**2/18**

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****3/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

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

N,N, 4-Trimethylpiperazine-1-ethylamine	CAS: 104-19-8 EC: 203-183-7	1-3	Xn; R21/22 C; R34 R43 R52/53	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]
n-butyl acetate	CAS: 123-86-4 EC: 204-658-1	1-3	R10 R66, R67 <b>See Section 16 for the full text of the R-phrases declared above.</b>	Flam. Liq. 3, H226 STOT SE 3, H336 <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard  
 [2] Substance with a workplace exposure limit  
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
 [5] Substance of equivalent concern

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

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR**

**4/18**

<b>Date of printing</b>	: 11 November 2013	<b>(M)SDS no.</b>	: 00052655
<b>Date of issue</b>	: 11 November 2013	<b>Version</b>	: 1

## SECTION 4: First aid measures

**Protection of first-aiders** : 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

#### Potential acute health effects

<b>Eye contact</b>	: Irritating to eyes.
<b>Inhalation</b>	: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	: May cause sensitisation by skin contact.
<b>Ingestion</b>	: No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: Adverse symptoms may include the following: irritation watering redness
<b>Inhalation</b>	: No specific data.
<b>Skin contact</b>	: Adverse symptoms may include the following: irritation redness
<b>Ingestion</b>	: No specific data.

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

<b>Notes to physician</b>	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Specific treatments</b>	: Symptomatic treatment and supportive therapy as indicated. Following severe exposure the patient should be kept under medical review for at least 48 hours.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: None known.

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

<b>Hazards from the substance or mixture</b>	: In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds

### 5.3 Advice for firefighters

Date of printing	: 11 November 2013	(M)SDS no.	: 00052655
Date of issue	: 11 November 2013	Version	: 1

## SECTION 5: Firefighting measures

- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.

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

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****6/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 7: Handling and storage**

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**Storage hazard class** : Storage class 12, Liquids, not dangerous  
**Huntsman Advanced Materials**

**7.3 Specific end use(s)**

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
n-butyl acetate	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> STEL: 966 mg/m <sup>3</sup> 15 minutes. STEL: 200 ppm 15 minutes. TWA: 724 mg/m <sup>3</sup> 8 hours. TWA: 150 ppm 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Derived effect levels**



**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****7/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 8: Exposure controls/personal protection**

Product/ingredient name	Type	Exposure	Value	Population	Effects
2,4,6-tris(dimethylaminomethyl) phenol	DNEL	Long term Inhalation	0.31 mg/m <sup>3</sup>	Workers	Systemic

**Predicted effect concentrations**

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
2,4,6-tris(dimethylaminomethyl) phenol	-	Fresh water	0.084 mg/l	Assessment Factors
	-	Marine	0.0084 mg/l	Assessment Factors
	-	PNECintermittent	0.84 mg/l	Assessment Factors
	-	Sewage Treatment Plant	0.2 mg/l	Assessment Factors

**8.2 Exposure controls**

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Material of gloves for long term application (BTT>480min):** : Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber

**Material of gloves for short term/splash application (10min <BTT<480min):** : neoprene, nitrile rubber

(BTT = Break Through Time)

Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers. Additional information can be found for instance at [www.gisbau.de](http://www.gisbau.de).

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****8/18**

<b>Date of printing</b>	: 11 November 2013	<b>(M)SDS no.</b>	: 00052655
<b>Date of issue</b>	: 11 November 2013	<b>Version</b>	: 1

**SECTION 8: Exposure controls/personal protection**

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

<b>Physical state</b>	: Liquid. [Viscous liquid.]
<b>Colour</b>	: Light yellow
<b>Odour</b>	: Slight
<b>Odour threshold</b>	: Not available.
<b>pH</b>	: Not available.
<b>Melting point/freezing point</b>	: Not available.
<b>Initial boiling point and boiling range</b>	: >200°C
<b>Flash point</b>	: Closed cup: >100°C [DIN 51758 EN 22719 (Pensky-Martens Closed Cup)] Open cup: 102°C
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Burning time</b>	: Not applicable.
<b>Burning rate</b>	: Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Vapour pressure</b>	: <0.001 kPa [room temperature]
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility(ies)</b>	
<b>Water solubility</b>	: practically insoluble
	20 deg C
<b>Partition coefficient: n-octanol/ water (LogK<sub>ow</sub>)</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: >200°C
<b>Viscosity</b>	: Dynamic (25°C): 20000 - 40000 mPa·s Kinematic: Not available. Kinematic (40°C): Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

**9.2 Other information**

**Density** : 1.165 g/cm<sup>3</sup> [25°C (77°F)]



**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****9/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : strong acids, strong bases, strong oxidising agents

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Decomposition products may include the following materials: Carbon oxides, Burning produces obnoxious and toxic fumes.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

<b>Product/ingredient name</b>	<b>Endpoint</b>	<b>Species</b>	<b>Result</b>	<b>Exposure</b>
ARALDITE 2012 HARDENER/HAERTER/ DURCISSEUR	LD50 Dermal	Rat - Male, Female	>4000 mg/kg	-
	LD50 Oral	Rat	2631 mg/kg	-
N'-(3-Aminopropyl)-N,N- dimethylpropane-1, 3-diamine	LD50 Dermal	Rabbit	1310 mg/kg	-
	LD50 Oral	Rat	1670 mg/kg	-
2,4,6-tris (dimethylaminomethyl) phenol	LD50 Dermal	Rat - Male	>1 ml/kg	-
	LD50 Oral	Rat - Male, Female	2169 mg/kg	-
N,N, 4-Trimethylpiperazine-1-ethylamine	LD50 Dermal	Rabbit	448 mg/kg	-
	LD50 Oral	Rat	677 mg/kg	-
n-butyl acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Guinea pig	4700 mg/kg	-
	LD50 Oral	Mouse	7060 mg/kg	-
	LD50 Oral	Rabbit	7437 mg/kg	-
	LD50 Oral	Rat	>8800 mg/kg	-
	LD50 Oral	Rat	>8800 mg/kg	-

**Conclusion/Summary** : No additional information.

**Irritation/Corrosion**

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****10/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 11: Toxicological information**

Product/ingredient name	Test	Species	Route of exposure	Result
ARALDITE 2012 HARDENER/HAERTER/ DURCISSEUR	-	Rabbit	-	Non-irritant.
N'-(3-Aminopropyl)-N,N- dimethylpropane-1,3-diamine	-	Rabbit	-	Corrosive
2,4,6-tris (dimethylaminomethyl) phenol	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	-	Corrosive
	EPA CFR	Rabbit	-	Corrosive

**Conclusion/Summary**

**Skin** : ARALDITE® 2012 Non-irritating to the skin.  
HARDENER/HAERTER/  
DURCISSEUR  
N'-(3-Aminopropyl)-N,N- Corrosive to the skin.  
dimethylpropane-1,  
3-diamine  
2,4,6-tris Corrosive to the skin.  
(dimethylaminomethyl)  
phenol

**Eyes** : 2,4,6-tris Corrosive to eyes.  
(dimethylaminomethyl)  
phenol

**Respiratory** : No additional information.

**Sensitiser**

Product/ingredient name	Test	Route of exposure	Species	Result
N'-(3-Aminopropyl)-N,N- dimethylpropane-1, 3-diamine	-	skin	Guinea pig	Sensitising
2,4,6-tris (dimethylaminomethyl) phenol	OECD 406 Skin Sensitization	skin	Guinea pig	Not sensitizing
n-butyl acetate	-	skin	Guinea pig	Not sensitizing

**Conclusion/Summary**

**Skin** : No additional information.

**Respiratory** : No additional information.

**Mutagenicity**

Product/ingredient name	Test	Result
N'-(3-Aminopropyl)-N,N- dimethylpropane-1,3-diamine	-	Negative
2,4,6-tris (dimethylaminomethyl) phenol	OECD 471 Bacterial Reverse Mutation Test	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Negative
n-butyl acetate	-	Negative

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****11/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 11: Toxicological information**

**Conclusion/Summary** : 2,4,6-tris (dimethylaminomethyl) phenol Not mutagenic in a standard battery of genetic toxicological tests.

**Carcinogenicity**

**Conclusion/Summary** : No additional information.

**Reproductive toxicity**

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

**Conclusion/Summary** : No additional information.

**Teratogenicity**

**Conclusion/Summary** : No additional information.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Ingestion** : No known significant effects or critical hazards.  
**Skin contact** : May cause sensitisation by skin contact.  
**Eye contact** : Irritating to eyes.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** : No specific data.  
**Ingestion** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
**Eye contact** : Adverse symptoms may include the following:  
irritation  
watering  
redness

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****12/18****Date of printing** : 11 November 2013**(M)SDS no.** : 00052655**Date of issue** : 11 November 2013**Version** : 1**SECTION 11: Toxicological information**

Product/ingredient name	Test	Result type	Result	Target organs
2,4,6-tris (dimethylaminomethyl) phenol	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	NOEL -	15 mg/kg	brain, liver, spleen

**Conclusion/Summary** : No additional information.**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.**Carcinogenicity** : No known significant effects or critical hazards.**Mutagenicity** : No known significant effects or critical hazards.**Teratogenicity** : No known significant effects or critical hazards.**Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**Other information** : Not available.**SECTION 12: Ecological information****12.1 Toxicity**

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
N'-(3-Aminopropyl)-N,N- dimethylpropane-1,3-diamine	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute EC50	48 hours	Daphnia	9.2 mg/l
		Acute ErC50 (growth rate)	72 hours	Algae	21 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute ErC50 (growth rate)	72 hours Static	Algae	84 mg/l
		Acute LC50	96 hours Static	Daphnia	718 mg/l
2,4,6-tris (dimethylaminomethyl) phenol	Unknown guidelines	Acute LC50	96 hours Static	Fish	175 mg/l
		Chronic NOEC	72 hours	Algae	6.25 mg/l
	-	Acute EC50	72 hours	Algae	674.7 mg/l
		Acute EC50	24 hours	Daphnia	205 mg/l
n-butyl acetate	-	Acute EC50	96 hours	Fish	185 mg/l
		Acute IC0	24 hours	Bacteria	1200 mg/l

**Conclusion/Summary** : No additional information.**12.2 Persistence and degradability**

Product/ingredient name	Test	Period	Result
N'-(3-Aminopropyl)-N,N- dimethylpropane-1,3-diamine	ISO ISO 7827, 1984 - Evaluation in an aqueous medium of the ultimate aerobic biodegradability of organic compounds	28 days	100 %
2,4,6-tris (dimethylaminomethyl) phenol	OECD 301D Ready Biodegradability - Closed Bottle Test	28 days	4 %
n-butyl acetate	-	28 days	98 %

**Conclusion/Summary** : No additional information.

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****13/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 12: Ecological information**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine	-	-	Readily
2,4,6-tris(dimethylaminomethyl)phenol	-	-	Not readily
n-butyl acetate	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine	0.5	-	low
2,4,6-tris(dimethylaminomethyl)phenol	0.219	-	low
n-butyl acetate	-	4 to 14	low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

Not applicable.

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

**12.7 Other ecological information****SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**13.1 Waste treatment methods****Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste product residues should not be disposed of via the sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Hazardous waste** : Yes.

**European waste catalogue (EWC)**

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****14/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 13: Disposal considerations**

Waste code	Waste designation
07 02 04*	other organic solvents, washing liquids and mother liquors

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	14.1 UN number	14.2 UN proper shipping name
<b>ADR/RID</b>	Not regulated.	-
<b>IMDG</b>	Not regulated.	-
<b>IATA</b>	Not regulated.	-

	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards	14.6 Special precautions for user	Additional information
<b>ADR/RID</b>	-	-	No.	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	-
<b>IMDG</b>	-	-	No.	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	-



**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****15/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 14: Transport information**

<b>IATA</b>	-	-	No.	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	-
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**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not applicable.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulation (EC) No. 1907/2006 (REACH)**

This product is compliant with the REACH Regulation EC 1907/2006.

Huntsman has pre-registered and is registering all of the substances that it manufactures in or imports into the European Economic Area (EEA) that are subject to Title II of the REACH Regulation.

**Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Other EU regulations**

**Europe inventory** : All components are listed or exempted.

**Black List Chemicals** : Not listed

**Priority List Chemicals** : Not listed

**Integrated pollution prevention and control list (IPPC) - Air** : Not listed

**Integrated pollution prevention and control list (IPPC) - Water** : Not listed

**National regulations**

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****16/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 15: Regulatory information**

- References** : The provision of Safety Data Sheets comes under Regulation 6 of CHIP (CHIP is the recognised abbreviation for the Chemicals Hazard Information and Packaging Regulations). This is an addition to the Health and Safety at Work Act 1974.
- Australia inventory (AICS)** : All components are listed or exempted.
- Canada inventory** :
- China inventory (IECSC)** : All components are listed or exempted.
- Japan inventory** : Not determined.
- Korea inventory (KECI)** : All components are listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC)** : Not determined.
- Philippines inventory (PICCS)** :
- United States inventory (TSCA 8b)** : All components are listed or exempted.
- Chemical Weapons Convention List Schedule I Chemicals** : Not listed
- Chemical Weapons Convention List Schedule II Chemicals** : Not listed
- Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

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

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	Expert judgment Expert judgment Expert judgment

**ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR****17/18**

**Date of printing** : 11 November 2013 **(M)SDS no.** : 00052655  
**Date of issue** : 11 November 2013 **Version** : 1

**SECTION 16: Other information**

**Full text of abbreviated H statements** : H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.  
H411 Toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]** : Acute Tox. 3, H311 ACUTE TOXICITY: SKIN - Category 3  
Acute Tox. 4, H302 ACUTE TOXICITY: ORAL - Category 4  
Acute Tox. 4, H312 ACUTE TOXICITY: SKIN - Category 4  
Acute Tox. 4, H332 ACUTE TOXICITY: INHALATION - Category 4  
Aquatic Chronic 2, H411 LONG-TERM AQUATIC HAZARD - Category 2  
Aquatic Chronic 3, H412 LONG-TERM AQUATIC HAZARD - Category 3  
Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2  
Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3  
Skin Corr. 1A, H314 SKIN CORROSION/IRRITATION - Category 1A  
Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B  
Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1  
STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3

**Full text of abbreviated R phrases** : R10- Flammable.  
R22- Harmful if swallowed.  
R20/22- Harmful by inhalation and if swallowed.  
R21/22- Harmful in contact with skin and if swallowed.  
R34- Causes burns.  
R35- Causes severe burns.  
R36- Irritating to eyes.  
R43- May cause sensitisation by skin contact.  
R66- Repeated exposure may cause skin dryness or cracking.  
R67- Vapours may cause drowsiness and dizziness.  
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Full text of classifications [DSD/DPD]** : C - Corrosive  
Xn - Harmful  
Xi - Irritant  
N - Dangerous for the environment

**(M)SDS no.** : 00052655  
**Date of printing** : 11/11/2013.  
**Date of issue/ Date of revision** : 11/11/2013.  
**Date of previous issue** : No previous validation.  
**Version** : 1  
**Notice to reader**

ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR

18/18

Date of printing : 11 November 2013

(M)SDS no. : 00052655

Date of issue : 11 November 2013

Version : 1

## SECTION 16: Other information

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