

# SAFETY DATA SHEET



ARALDITE® 2020 HARDENER/HAERTER/DURCISSEUR

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

### 1.1 Product identifier

**Product name** : ARALDITE® 2020 HARDENER/HAERTER/DURCISSEUR  
**Registration number** : Not available.  
**Product code** : 00047541  
**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  
+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

**Product definition** : Mixture

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

Acute Tox. 4, H302  
Acute Tox. 4, H312  
Skin Corr. 1B, H314  
Eye Dam. 1, H318  
Skin Sens. 1, H317  
Aquatic Chronic 3, H412

**Ingredients of unknown toxicity** :

**Ingredients of unknown ecotoxicity** :

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

**Date of issue / Date of revision** : 5/28/2015.

Date of printing	: 28 May 2015	(M)SDS no.	: 00047541
Date of issue	: 28 May 2015	Version	: 4

## SECTION 2: Hazards identification

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

<b>Classification</b>	: Xn; R21/22 C; R34 R43 R52/53
<b>Human health hazards</b>	: Harmful in contact with skin and if swallowed. Causes burns. May cause sensitisation by skin contact.
<b>Environmental hazards</b>	: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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 pictograms** :



**Signal word** : Danger

**Hazard statements** : Harmful if swallowed or in contact with skin.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**General** : Not applicable.

**Prevention** : Wear protective gloves: > 8 hours (breakthrough time): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber. Wear eye or face protection. Wear protective clothing. Avoid release to the environment.

**Response** : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician. IF IN EYES: Immediately call a POISON CENTER or physician.

**Storage** : Store locked up.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : isophorone diamine  
trimethylhexamethylenediamine

**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.

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>				<b>3/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541	
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4	

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

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS: 2855-13-2 EC: 220-666-8	30-60	Xn; R21/22 C; R34 R43 R52/53	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
Trimethylhexane-1,6-diamine	CAS: 25620-58-0 EC: 247-134-8	13-30	Xn; R22 C; R34 R43 R52/53  <b>See Section 16 for the full text of the R-phrases declared above.</b>	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

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** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR**

**4/17**

<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4

## SECTION 4: First aid measures

- Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. May cause burns to mouth, throat and stomach.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

- Notes to physician** : 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.
- Specific treatments** : 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

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

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

**Date of issue / Date of revision** : 5/28/2015.

**4/17**

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>		<b>5/17</b>	
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4

## SECTION 5: Firefighting measures

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

### 5.3 Advice for firefighters

- 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.
- 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. Do not breathe 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 the information in "For non-emergency personnel".

### 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. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material 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.

**ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR**

**6/17**

**Date of printing** : 28 May 2015 **(M)SDS no.** : 00047541  
**Date of issue** : 28 May 2015 **Version** : 4

## 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 breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
- 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. Store locked up. 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 Huntsman Advanced Materials** : Storage class 8, Corrosive substances

### 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

No exposure limit value known.

- 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

**ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR**

**7/17**

**Date of printing** : 28 May 2015 **(M)SDS no.** : 00047541  
**Date of issue** : 28 May 2015 **Version** : 4

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

required.

Derived effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
3-aminomethyl-3,5,5-trimethylcyclohexylamine	DNEL	Short term Inhalation	20.1	Workers	Systemic
	DNEL	Short term Inhalation	20.1	Workers	Local
	DNEL	Long term Oral	0.526	Consumers	Systemic

Predicted effect concentrations

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
3-aminomethyl-3,5,5-trimethylcyclohexylamine	PNEC	Fresh water	0.06	Assessment Factors
	PNEC	Marine	0.006	Assessment Factors
	PNEC	PNECintermittent	0.23	Assessment Factors
	PNEC	Sewage Treatment Plant	3.18	Assessment Factors
	PNEC	Fresh water sediment	5.784	Assessment Factors
	PNEC	Marine water sediment	0.578	Assessment Factors
	PNEC	Soil	1.121	Assessment Factors
	PNEC	Secondary Poisoning	-	Assessment Factors

**8.2 Exposure controls**

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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):** : 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).

**ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR**

**8/17**

**Date of printing** : 28 May 2015 **(M)SDS no.** : 00047541  
**Date of issue** : 28 May 2015 **Version** : 4

## SECTION 8: Exposure controls/personal protection

- 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.  
organic vapour (Type A) and particulate filter
- 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

- Physical state** : Liquid.
- Colour** : Clear., Light yellow
- Odour** : Amine-like.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : >200°C
- Flash point** : Closed cup: >120°C [DIN 51758 EN 22719 (Pensky-Martens Closed Cup)]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : <0.006 kPa [room temperature]
- Vapour density** : Not available.
- Relative density** : Not available.
- Solubility(ies)**
  - Water solubility** : partially soluble
- Partition coefficient: n-octanol/ water (LogK<sub>ow</sub>)** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : >200°C
- Viscosity** : Dynamic (25°C): 150 mPa·s  
Kinematic: Not available.  
Kinematic (40°C): Not available.
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>				<b>9/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541	
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4	

## SECTION 9: Physical and chemical properties

### 9.2 Other information

**Density** : 0.95 g/cm<sup>3</sup> [25°C (77°F)]

## 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, Nitrogen oxides, Burning produces obnoxious and toxic fumes.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Endpoint	Species	Result	Exposure
3-aminomethyl-3,5,5-trimethylcyclohexylamine	LD50 Oral	Rat - Male	1030 mg/kg	-
Trimethylhexane-1,6-diamine	LD50 Oral	Rat	910 mg/kg	-

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

#### Acute toxicity estimates

Route	ATE value
Oral	979.1 mg/kg
Dermal	1815 mg/kg

#### Irritation/Corrosion

Product/ingredient name	Test	Species	Route of exposure	Result
3-aminomethyl-3,5,5-trimethylcyclohexylamine	-	Rabbit	Skin	Corrosive
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes	Corrosive
Trimethylhexane-1,6-diamine	Unknown guidelines	Mouse	Skin	Corrosive
	Unknown guidelines OECD 405 Acute Eye Irritation/Corrosion	Rabbit Rabbit	Skin Eyes	Irritant Corrosive

#### Conclusion/Summary

**Skin** : 3-aminomethyl-3,5,5-trimethylcyclohexylamine Corrosive to the skin.  
Trimethylhexane-1,6-diamine Corrosive to the skin.

**Eyes** :

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>				<b>10/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541	
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4	

## SECTION 11: Toxicological information

3-aminomethyl-3,5, 5-trimethylcyclohexylamine Corrosive to eyes.  
 Trimethylhexane-1, 6-diamine Corrosive to eyes.

**Respiratory** : No additional information.

### Sensitiser

Product/ingredient name	Test	Route of exposure	Species	Result
3-aminomethyl-3,5, 5-trimethylcyclohexylamine	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitising
Trimethylhexane-1, 6-diamine	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitising

### Conclusion/Summary

**Skin** : No additional information.

**Respiratory** : No additional information.

### Mutagenicity

**Conclusion/Summary** : 3-aminomethyl-3,5, 5-trimethylcyclohexylamine Not mutagenic in a standard battery of genetic toxicological tests.  
 Trimethylhexane-1, 6-diamine 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
Trimethylhexane-1, 6-diamine	OECD 416 Two-Generation Reproduction Toxicity Study	Rat	Oral: 10 mg/kg NOAEL	-

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

### Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
3-aminomethyl-3,5, 5-trimethylcyclohexylamine	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	>250 mg/kg NOAEL
Trimethylhexane-1, 6-diamine	-	Rabbit - Female	>250000 ppm NOAEL

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

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

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

### Potential acute health effects

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Ingestion** : Harmful if swallowed. May cause burns to mouth, throat and stomach.

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>				<b>11/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541	
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4	

## SECTION 11: Toxicological information

**Skin contact** : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.

**Eye contact** : Causes serious eye damage.

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

**Inhalation** : No specific data.

**Ingestion** : Adverse symptoms may include the following:  
stomach pains

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur

**Eye contact** : Adverse symptoms may include the following:  
pain  
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

Product/ingredient name	Test	Result type	Result	Target organs
3-aminomethyl-3,5,5-trimethylcyclohexylamine	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	NOAEL -	60 mg/kg	kidneys
Trimethylhexane-1,6-diamine	EPA CFR	NOAEL -	10 mg/kg	-

**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

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>				<b>12/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541	
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4	

## SECTION 12: Ecological information

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Measured	Acute EC10	18 hours	Bacteria	1120 mg/l
	EU EC C.3 Algal Inhibition Test	Acute EC50	72 hours Static	Algae	37 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute EC50	48 hours Static	Daphnia	23 mg/l
	EU EC C.1 Acute Toxicity for Fish	Acute LC50	96 hours Semi-static	Fish	110 mg/l
Trimethylhexane-1,6-diamine	DIN	Acute EgC50	72 hours	Algae	29.5 mg/l
	DIN	Acute IC50	17 hours	Bacteria	89 mg/l

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

### 12.2 Persistence and degradability

Product/ingredient name	Test	Period	Result
3-aminomethyl-3,5,5-trimethylcyclohexylamine	EU EC C.4-A Biodegradation: Determination of the "Ready" Biodegradability: Dissolved Organic Carbon (DOC) Die-Away Test EU	28 days	8 %
Trimethylhexane-1,6-diamine		28 days	7 %

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
3-aminomethyl-3,5,5-trimethylcyclohexylamine	-	-	Not readily
Trimethylhexane-1,6-diamine	-	-	Not readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99	-	low
Trimethylhexane-1,6-diamine	0.77	-	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

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>		<b>13/17</b>	
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4

## 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. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

#### European waste catalogue (EWC)

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>	UN2289	ISOPHORONEDIAMINE SOLUTION
<b>IMDG</b>	UN2289	ISOPHORONEDIAMINE SOLUTION
<b>IATA</b>	UN2289	ISOPHORONEDIAMINE SOLUTION

	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>	8 	III	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>Hazard identification number</b> 80  <b>Tunnel code</b> E

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>				<b>14/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541	
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4	

## SECTION 14: Transport information

<b>IMDG</b>	8		III	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>Emergency schedules (EmS)</b> F-A S-B
<b>IATA</b>	8		III	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>Passenger and Cargo Aircraft</b> Quantity limitation: 5 L Packaging instructions: 852 <b>Cargo Aircraft Only</b> Quantity limitation: 60 L Packaging instructions: 856

**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.

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>			<b>15/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4

## SECTION 15: Regulatory information

**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

**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)** : This product contains a substance that is not listed on the Australian Inventory of Chemical Substances. The chemical is being introduced under a Low Volume Chemical Permit granted under section 21U(2) of the Industrial Chemicals (Notification and Assessment) Act 1989.

**Canada inventory** :

**China inventory (IECSC)** :

**Japan inventory** : Listed or exempted in Japan Chemical Substance Control Law.

**Korea inventory (KECI)** :

**New Zealand Inventory of Chemicals (NZIoC)** : All components are listed or exempted.

**Philippines inventory (PICCS)** :

**United States inventory (TSCA 8b)** :

**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

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

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>		<b>16/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b> : 00047541
<b>Date of issue</b>	: 28 May 2015	<b>Version</b> : 4

**SECTION 16: Other information**

Classification	Justification
Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

**Full text of abbreviated H statements** : H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]** : Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4  
Acute Tox. 4, H312 ACUTE TOXICITY (dermal) - Category 4  
Aquatic Chronic 3, H412 LONG-TERM AQUATIC HAZARD - Category 3  
Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B  
Skin Corr. 1C, H314 SKIN CORROSION/IRRITATION - Category 1C  
Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1

**Full text of abbreviated R phrases** : R22- Harmful if swallowed.  
R21/22- Harmful in contact with skin and if swallowed.  
R34- Causes burns.  
R43- May cause sensitisation by skin contact.  
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

**(M)SDS no.** : 00047541  
**Date of printing** : 5/28/2015.  
**Date of issue/ Date of revision** : 5/28/2015.  
**Date of previous issue** : 1/20/2015.  
**Version** : 4

**Notice to reader**

*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.*

**ARALDITE® is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more countries, but not all countries.**

<b>ARALDITE 2020 HARDENER/HAERTER/DURCISSEUR</b>			<b>17/17</b>
<b>Date of printing</b>	: 28 May 2015	<b>(M)SDS no.</b>	: 00047541
<b>Date of issue</b>	: 28 May 2015	<b>Version</b>	: 4

## **SECTION 16: Other information**

***NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.***