

# SAFETY DATA SHEET

ARALDITE 2047-1



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

### 1.1 Product identifier

**Product name** : ARALDITE 2047-1  
**Product code** : 00064897  
**Product description** : Not available.

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

**Product use** : Acrylate adhesive

### 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

### 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  
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** : Working pack (preparation)

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

Flam. Liq. 2, H225  
Org. Perox. E, H242  
Acute Tox. 4, H332  
Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
Lact., H362  
STOT SE 3, H335i  
Aquatic Acute 1, H400  
Aquatic Chronic 1, H410

**Ingredients of unknown toxicity** : Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 49.8%

**Ingredients of unknown ecotoxicity** : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 49.8%

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

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

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**SECTION 2: Hazards identification**

- Classification** : O; R7  
F; R11  
Xn; R20  
Xi; R36/37/38  
R43, R64, R66  
N; R50/53
- Physical/chemical hazards** : May cause fire. Highly flammable.
- Human health hazards** : Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact. May cause harm to breastfed babies. Repeated exposure may cause skin dryness or cracking.
- Environmental hazards** : Very toxic 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**

: Highly flammable liquid and vapour.  
Heating may cause a fire.  
Harmful if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
May cause harm to breast-fed children.  
May cause respiratory irritation.  
Very toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use explosion-proof electrical/ventilating/lighting equipment. Keep container tightly closed. Avoid contact during pregnancy/while nursing. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

**Storage**

: Protect from sunlight. Store at temperatures not exceeding 40°C/104°F. Keep cool. Store away from other materials.

**Disposal**

: Not applicable.

**Hazardous ingredients**

: methyl methacrylate  
dibenzoyl peroxide  
phenyl isocyanate

**Supplemental label elements**

: Not applicable.

**Special packaging requirements****Containers to be fitted with child-resistant fastenings**

: Not applicable.

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**SECTION 2: Hazards identification**

Tactile warning of danger : Not applicable.

**2.3 Other hazards**

Other hazards which do not result in classification : Temperature control may be required. Hazardous decomposition may occur.

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

Substance/mixture : Working pack (preparation)

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
methyl methacrylate	CAS: 80-62-6 Index: 607-035-00-6	30 - 60	F; R11 Xi; R37/38 R43	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
Alkanes, -C14-17, -chloro-	CAS: 85535-85-9	3 - 7	R64, R66 N; R50/53	Lact., H362 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	CAS: 7534-94-3	3 - 7	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
methacrylic acid	CAS: 79-41-4 Index: 607-088-00-5	1 - 3	Xn; R21/22 C; R35	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335	[1] [2]
dibenzoyl peroxide	CAS: 94-36-0	1 - 3	E; R3 O; R7 Xi; R36 R43	Org. Perox. B, H241 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]
2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate	CAS: 52628-03-2	1 - 3	C; R34	Skin Corr. 1B, H314 Eye Dam. 1, H318	[1]
2,2'-[(4-methylphenyl)imino]bisethanol	CAS: 3077-12-1	1 - 3	Xn; R22 Xi; R41	Acute Tox. 4, H302 Eye Dam. 1, H318	[1]
N,N-dimethylaniline	CAS: 121-69-7 Index: 612-016-00-0	0.1 - 1	Carc. Cat. 3; R40 T; R23/24/25 N; R51/53	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Carc. 2, H351 Aquatic Chronic 2, H411	[1] [2]
phenyl isocyanate	CAS: 103-71-9	0.1 - 1	R10 T+; R26 Xn; R22 Xi; R36/37/38 R42	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335	[1] [2]
			See section 16 for the full text of the R-phrases declared above	See Section 16 for the full text of the H statements declared above.	

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### SECTION 3: Composition/information on ingredients

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

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 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. Get medical attention. If necessary, call a poison center or physician. 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** : 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. 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.
- 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 irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Irritating to mouth, throat and stomach.

##### Over-exposure signs/symptoms

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## SECTION 4: First aid measures

- |                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness  |
| <b>Inhalation</b>   | : Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing<br>reduced foetal weight<br>increase in foetal deaths<br>skeletal malformations |
| <b>Skin contact</b> | : Adverse symptoms may include the following:<br>irritation<br>redness<br>reduced foetal weight<br>increase in foetal deaths<br>skeletal malformations                    |
| <b>Ingestion</b>    | : Adverse symptoms may include the following:<br>reduced foetal weight<br>increase in foetal deaths<br>skeletal malformations   |

### 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 dry chemical, CO <sub>2</sub> , water spray (fog) or foam. |
| <b>Unsuitable extinguishing media</b> | : Do not use water jet.  |

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

- |   |   |
|---|---|
| <b>Hazards from the substance or mixture</b>    | : Highly flammable liquid and vapour. This material increases the risk of fire and may aid combustion. Heating may cause a fire. May re-ignite itself after fire is extinguished. Hazardous decomposition may occur. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is very toxic 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. |
| <b>Hazardous thermal decomposition products</b> | : Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>phosphorus oxides<br>metal oxide/oxides  |

### 5.3 Advice for firefighters

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## 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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 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. Collect spillage.

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

- Small spill** : Stop leak if without risk. Move containers from spill area. Avoid contamination with reactive substances. 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. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Use spark-proof tools and explosion-proof equipment. 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. Avoid contamination with reactive substances. 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 (see section 13). Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

### 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.



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## 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. Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy or while nursing. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Keep away from clothing, incompatible materials and combustible materials. Temperature control may be required. 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

- : To avoid the risk of formation of shock-sensitive crystals or loss of stability, it is important to store the product within the recommended temperature range. Temperature control may be required. Store in accordance with local regulations. Store in a segregated and approved area. 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 at temperatures not exceeding °C/°F. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Prevent product contamination. 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 5, Oxidizing 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

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

Product/ingredient name	Exposure limit values
methyl methacrylate	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007).</b> STEL: 416 mg/m <sup>3</sup> 15 minute(s). STEL: 100 ppm 15 minute(s). TWA: 208 mg/m <sup>3</sup> 8 hour(s). TWA: 50 ppm 8 hour(s).
methacrylic acid	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007).</b> STEL: 143 mg/m <sup>3</sup> 15 minute(s). STEL: 40 ppm 15 minute(s). TWA: 72 mg/m <sup>3</sup> 8 hour(s). TWA: 20 ppm 8 hour(s).
N,N-dimethylaniline	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007). Absorbed through skin.</b> STEL: 50 mg/m <sup>3</sup> 15 minute(s). STEL: 10 ppm 15 minute(s). TWA: 5 ppm 8 hour(s). TWA: 25 mg/m <sup>3</sup> 8 hour(s).
phenyl isocyanate	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin sensitiser.</b> STEL: 0.07 mg/m <sup>3</sup> , (as NCO) 15 minute(s). TWA: 0.02 mg/m <sup>3</sup> , (as NCO) 8 hour(s).

**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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**Derived effect levels**

No DELs available.

**Predicted effect concentrations**

No PECs available.

**8.2 Exposure controls**

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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.

**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.



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## SECTION 8: Exposure controls/personal protection

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

**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).

**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.

**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.
<b>Colour</b>	: Not available.
<b>Odour</b>	: Not available.
<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>	: Not available.
<b>Flash point</b>	: Closed cup: >10°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>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility(ies)</b>	
<b>Water solubility</b>	:

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## SECTION 9: Physical and chemical properties

Partition coefficient: n-octanol/water : Not available.  
 Auto-ignition temperature : Not available.  
 Decomposition temperature : Not available.  
 Viscosity : Not available.  
 Explosive properties : Not available.  
 Oxidising properties : Not available.

### 9.2 Other information

Density : 1.23 g/cm<sup>3</sup> [25°C (77°F)]

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : This product, in laboratory testing, neither detonates nor deflagrates and only shows low or no effect when heated under confinement.

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

**10.3 Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use.  
 Conditions may include the following:  
 temperature increase  
 high temperature  
 Reactions may include the following:  
 hazardous decomposition  
 risk of causing fire

**10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid increased storage temperature. Drying on clothing or other combustible materials may cause fire.

**10.5 Incompatible materials** : Reactive or incompatible with the following materials:  
 oxidizing materials  
 combustible materials  
 reducing materials  
 copper  
 iron  
 rust

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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Endpoint	Species	Result	Exposure
methyl methacrylate	LC50 Inhalation Vapour	Rat	7093 ppm	4 hours
methacrylic acid	LD50 Oral	Rat	7872 mg/kg	-
	LD50 Dermal	Rat	500 to 1000 mg/kg	-
	LD50 Oral	Rat	1320 to 2260 mg/kg	-
dibenzoyl peroxide	LC50 Inhalation Dusts and	Rat	>24.3 mg/L	4 hours

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**SECTION 11: Toxicological information**

phenyl isocyanate	mists LC50 Inhalation Dusts and mists LD50 Dermal LD50 Dermal LD50 Oral LD50 Oral	Rat  Rabbit Rat Mouse Rat	0.02 mg/L  7130 mg/kg 5475 mg/kg 196 mg/kg 800 mg/kg	4 hours  - - - -
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Acute toxicity estimates

Not available.

Irritation/Corrosion**Conclusion/Summary** : Not available.Sensitiser

Product/ingredient name	Test	Route of exposure	Species	Result
methyl methacrylate	- -	skin Respiratory	Not known Not known	Sensitising Sensitising

**Conclusion/Summary** : Not available.Mutagenicity

Product/ingredient name	Test	Result
phenyl isocyanate	-	Negative

**Conclusion/Summary** : Not available.CarcinogenicityReproductive toxicityTeratogenicity

Product/ingredient name	Test	Species	Result/Result type
phenyl isocyanate	-	Mouse - Female	9.8 mg/kg

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
methyl methacrylate	Category 3	Not determined	Respiratory tract irritation
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	Category 3	Not determined	Respiratory tract irritation
methacrylic acid	Category 3	Not determined	Respiratory tract irritation
phenyl isocyanate	Category 3	Not determined	Respiratory tract irritation

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** : Harmful if inhaled. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

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## SECTION 11: Toxicological information

**Ingestion** : Irritating to mouth, throat and stomach.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

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

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

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

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

**Conclusion/Summary** : Not available.

**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** : May cause harm to breast-fed children.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

### 12.2 Persistence and degradability

### 12.3 Bioaccumulative potential

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**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
phenyl isocyanate	-	16.5	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. Significant quantities of waste product residues should not be disposed of via the foul 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.

**Hazardous waste** : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
07 02 08*	other still bottoms and reaction residues

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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. 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**

**ADR/RID** UN3107

Organic peroxide type E, liquid DIBENZOYL PEROXIDE METHYL METHACRYLATE

**ADN/ADNR** not available

not available

**IMDG** UN3107

Organic peroxide type E, liquid (METHYL METHACRYLATE) (DIBENZOYL PEROXIDE). Marine pollutant (N,N-dimethylaniline)


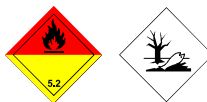

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**SECTION 14: Transport information**

IATA UN3107 Organic peroxide type E, liquid (DIBENZOYL PEROXIDE) (METHYL METHACRYLATE)

	ADR/RID	ADN/ADNR	IMDG	IATA
14.3 Transport hazard class(es)	5.2 		5.2 	5.2 
14.4 Packing group	-		-	-
14.5 Environmental hazards	Yes.		Yes.	Yes.
14.6 Special precautions for user	Not available.		Not available.	Not available.
Additional information	<b>Special provisions</b> 122 274  <b>Tunnel code</b> D		<b>Emergency schedules (EmS)</b> F-J, S-R	<b>Passenger and Cargo Aircraft</b> Quantity limitation: 10 L Packaging instructions: 570 <b>Cargo Aircraft Only</b> Quantity limitation: 25 L Packaging instructions: 570

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)Annex XIV - List of substances subject to authorisationSubstances 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** : Listed



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**SECTION 15: Regulatory information**

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

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

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Alkanes,-C14-17,-chloro-N,N-dimethylaniline	- Carc. 2, H351	- -	Lact., H362 -	- -

**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.

**International regulations**

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]**

Classification	Justification
Flam. Liq. 2, H225	Expert judgment
Org. Perox. E, H242	Expert judgment
Acute Tox. 4, H332	On basis of test data
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Skin Sens. 1, H317	Expert judgment
Lact., H362	Expert judgment
STOT SE 3, H335i	Expert judgment
Aquatic Acute 1, H400	Expert judgment
Aquatic Chronic 1, H410	Expert judgment

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**SECTION 16: Other information**

<b>Full text of abbreviated H statements</b>	: H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H241 Heating may cause a fire or explosion. H242 Heating may cause a fire. H301 Toxic if swallowed. H302 Harmful if swallowed. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H330 Fatal if inhaled. H331 Toxic if inhaled. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H335i May cause respiratory irritation. H351 Suspected of causing cancer. H362 May cause harm to breast-fed children. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.
<b>Full text of classifications [CLP/GHS]</b>	: Acute Tox. 1, H330 ACUTE TOXICITY: INHALATION - Category 1 Acute Tox. 3, H301 ACUTE TOXICITY: ORAL - Category 3 Acute Tox. 3, H311 ACUTE TOXICITY: SKIN - Category 3 Acute Tox. 3, H331 ACUTE TOXICITY: INHALATION - 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 Acute 1, H400 AQUATIC TOXICITY (ACUTE) - Category 1 Aquatic Chronic 1, H410 AQUATIC TOXICITY (CHRONIC) - Category 1 Aquatic Chronic 2, H411 AQUATIC TOXICITY (CHRONIC) - Category 2 Carc. 2, H351 CARCINOGENICITY - Category 2 Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3 Lact., H362 TOXIC TO REPRODUCTION - Effects on or via lactation Org. Perox. B, H241 ORGANIC PEROXIDES - Type B Org. Perox. E, H242 ORGANIC PEROXIDES - Type E Resp. Sens. 1, H334 RESPIRATORY SENSITIZATION - Category 1 Skin Corr. 1A, H314 SKIN CORROSION/IRRITATION - Category 1A Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2 Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3 STOT SE 3, H335i SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE): INHALATION [Respiratory tract irritation] - Category 3
<b>Full text of abbreviated R phrases</b>	: R3- Extreme risk of explosion by shock, friction, fire or other sources of ignition. R7- May cause fire. R11- Highly flammable. R10- Flammable. R40- Limited evidence of a carcinogenic effect. R26- Very toxic by inhalation. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R20- Harmful by inhalation. R22- Harmful if swallowed.

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**SECTION 16: Other information**

R21/22- Harmful in contact with skin and if swallowed.  
 R34- Causes burns.  
 R35- Causes severe burns.  
 R41- Risk of serious damage to eyes.  
 R36- Irritating to eyes.  
 R37/38- Irritating to respiratory system and skin.  
 R36/37/38- Irritating to eyes, respiratory system and skin.  
 R42- May cause sensitisation by inhalation.  
 R43- May cause sensitisation by skin contact.  
 R64- May cause harm to breastfed babies.  
 R66- Repeated exposure may cause skin dryness or cracking.  
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Full text of classifications [DSD/DPD]** : E - Explosive  
 O - Oxidising  
 F - Highly flammable  
 Carc. Cat. 3 - Carcinogen category 3  
 T+ - Very toxic  
 T - Toxic  
 C - Corrosive  
 Xn - Harmful  
 Xi - Irritant  
 N - Dangerous for the environment

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