



## SAFETY DATA SHEET ARBOSIL HDLM

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

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

#### 1.1. Product identifier

**Product name** ARBOSIL HDLM

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

**Identified uses** Sealant.

**Uses advised against** Restricted to professional users. This product is not intended to be used by the general public.

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

**Supplier** Adshead Ratcliffe & Co. Ltd.  
Derby Road, Belper  
Derbyshire.  
DE56 1WJ  
T: (+44) 01773 826661  
F: (+44) 01773 821215  
E: sds.carlisle@ccm-europe.com

#### 1.4. Emergency telephone number

**Emergency telephone** NPIS (National Poisons Information Service): 0344 892 0111 (for medical professionals only). For medical advice, members of the public should contact NHS 111 in England: 111; NHS 24 in Scotland: 111; NHS Direct in Wales: 111 or 0845 4647. In Northern Ireland: contact your local GP or pharmacist.

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (EC 1272/2008)

**Physical hazards** Not Classified

**Health hazards** Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Carc. 1B - H350 STOT SE 2 - H371

**Environmental hazards** Not Classified

#### 2.2. Label elements

##### Hazard pictograms



**Signal word** Danger

**Hazard statements** H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H350 May cause cancer.  
H371 May cause damage to organs (Respiratory tract).

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<b>Precautionary statements</b>	<p>P201 Obtain special instructions before use.</p> <p>P260 Do not breathe vapours.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p>
<b>Supplemental label information</b>	<p>EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.</p>
<b>Contains</b>	<p>Butan-2-one 0,0'0"-(methylsilylidyne)trioxime, Butanone oxime, Butan-2-one 0,0',0"-(vinylsilylidyne)trioxime, N-(3-(Trimethoxysilyl)propyl)ethylenediamine</p>

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Moisture curing process releases a small amount of butanone oxime (MEKO). MEKO is toxic if swallowed, harmful in contact with skin, causes skin irritation, causes serious eye damage, may cause an allergic skin reaction, may cause drowsiness or dizziness, may cause cancer, causes damage to the upper respiratory tract and may cause damage to the blood system through prolonged or repeated exposure.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

<b>Butan-2-one 0,0'0"-(methylsilylidyne)trioxime</b> <span style="float: right;"><b>&lt; 5%</b></span>
CAS number: 22984-54-9                      EC number: 245-366-4                      REACH registration number: 01-2119987100-43-XXXX

#### Classification

Eye Irrit. 2 - H319  
 Skin Sens. 1B - H317  
 STOT RE 2 - H373

#### Butanone oxime **<2%**

CAS number: 96-29-7                      EC number: 202-496-6

#### Classification

Acute Tox. 3 - H301  
 Acute Tox. 4 - H312  
 Skin Irrit. 2 - H315  
 Eye Dam. 1 - H318  
 Skin Sens. 1 - H317  
 Carc. 1B - H350  
 STOT SE 1 - H370  
 STOT SE 3 - H336  
 STOT RE 2 - H373

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<b>Butan-2-one 0,0',0''-(vinylsilyldiyl)trioxime</b>	<b>&lt; 1%</b>
CAS number: 2224-33-1                      EC number: 218-747-8                      REACH registration number: 01-2119987099-18-XXXX	
<b>Classification</b> Eye Dam. 1 - H318 Skin Sens. 1B - H317 STOT RE 2 - H373	
<b>N-(3-(Trimethoxysilyl)propyl)ethylenediamine</b>	<b>&lt; 0.3%</b>
CAS number: 1760-24-3                      EC number: 217-164-6                      REACH registration number: 01-2119970215-39-XXXX	
<b>Classification</b> Acute Tox. 4 - H332 Eye Dam. 1 - H318 Skin Sens. 1B - H317 STOT RE 2 - H373	
<b>Diocetyl tin dilaurate</b>	<b>&lt; 0.3%</b>
CAS number: 3648-18-8                      EC number: 222-883-3	
<b>Classification</b> Repr. 1B - H360D STOT SE 2 - H371 STOT RE 1 - H372	
<b>Methanol</b>	<b>&lt; 0.1%</b>
CAS number: 67-56-1                      EC number: 200-659-6                      REACH registration number: 01-2119433307-44-XXXX	
<b>Classification</b> Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 3 - H331 STOT SE 1 - H370	

The full text for all hazard statements is displayed in Section 16.

**Composition comments**                      Light colours of this product may contain at least 1% of titanium dioxide but less than 1% of all particles have a diameter  $\leq 10 \mu\text{m}$ .  
 The labelling statement, EUH212 ('Warning! Hazardous respirable dust may be formed when used. Do not breathe dust') applies however considering the form and use of the product it is unlikely that respirable dust will be generated.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**General information**                      In all cases of doubt, or if symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

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<b>Inhalation</b>	Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing. In the event of any sensitisation symptoms developing, ensure further exposure is avoided.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Rinse cautiously with water for several minutes. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

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

<b>General information</b>	Prolonged or repeated exposure may cause the following adverse effects: May cause cancer. Moisture curing process releases a small amount of butanone oxime (MEKO). MEKO is toxic if swallowed, harmful in contact with skin, causes skin irritation, causes serious eye damage, may cause an allergic skin reaction, may cause drowsiness or dizziness, may cause cancer, causes damage to the upper respiratory tract and may cause damage to the blood system through prolonged or repeated exposure. Curing process may release a small amount of methanol which is irritating to mucous membranes and has skin drying and narcotic effects.
<b>Inhalation</b>	Irritation of nose, throat and airway. Coughing, chest tightness, feeling of chest pressure. Drowsiness. Dizziness.
<b>Ingestion</b>	May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach.
<b>Skin contact</b>	May cause sensitisation by skin contact. Allergic rash. Redness. Itchiness.
<b>Eye contact</b>	Causes serious eye irritation.

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

<b>Notes for the doctor</b>	Treat symptomatically.
<b>Specific treatments</b>	Antidote for methanol poisoning is ethanol.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Water spray, fog or mist. Foam, carbon dioxide or dry powder.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

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

<b>Specific hazards</b>	No unusual fire or explosion hazards noted.
<b>Hazardous combustion products</b>	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

### 5.3. Advice for firefighters

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<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

### SECTION 6: Accidental release measures

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

<b>Personal precautions</b>	Do not breathe vapours. Avoid contact with skin and eyes. Do not touch or walk into spilled material. Ensure suitable respiratory protection is worn during removal of spillages in confined areas. For personal protection, see Section 8. Wash contaminated skin thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.
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#### 6.2. Environmental precautions

<b>Environmental precautions</b>	Do not discharge into drains or watercourses or onto the ground.
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#### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.
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#### 6.4. Reference to other sections

<b>Reference to other sections</b>	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.
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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

<b>Usage precautions</b>	May cause cancer. Do not handle until all safety precautions have been read and understood. Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Handle all packages and containers carefully to minimise spills. Avoid contact with skin and eyes. Persons susceptible to allergic reactions should not handle this product. Do not breathe vapours. Wash skin thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Keep container tightly sealed when not in use. Do not handle broken packages without protective equipment.
<b>Advice on general occupational hygiene</b>	Do not eat, drink or smoke when using this product. Persons susceptible to allergic reactions should not handle this product. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

#### 7.2. Conditions for safe storage, including any incompatibilities

<b>Storage precautions</b>	Store locked up. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect containers from damage.
<b>Storage class</b>	Chemical storage.

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### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

**Usage description** Gunnable sealant.

### SECTION 8: Exposure controls/Personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### **Titanium dioxide**

Long-term exposure limit (8-hour TWA): WEL 4 mg/m<sup>3</sup> respirable dust

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup> inhalable dust

##### **Diocetyl tin dilaurate**

Long-term exposure limit (8-hour TWA): WEL 0.1 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 0.2 mg/m<sup>3</sup>

as Sn

Sk

##### **Methanol**

Long-term exposure limit (8-hour TWA): WEL 200 ppm 266 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 250 ppm 333 mg/m<sup>3</sup>

Sk

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

#### Butan-2-one 0,0'-((methylsilylidyne)trioxime (CAS: 22984-54-9)

<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 1.02 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 0.145 mg/kg/day
<b>PNEC</b>	- Fresh water; 0.018 mg/l - marine water; 0.002 mg/l - Intermittent release; 0.12 mg/l - STP; 3.9 mg/l - Sediment (Freshwater); 557.543 mg/kg - Sediment (Marinewater); 55.754 mg/kg - Soil; 65.63 mg/kg Oral (food); 3.22 mg/kg food

#### Butanone oxime (CAS: 96-29-7)

<b>DMEL</b>	Workers - Inhalation; Long term systemic effects: 28 µg/m <sup>3</sup> Workers - Inhalation; Long term local effects: 0.9 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 4 µg/kg bw/day
<b>PNEC</b>	Fresh water; 0.256 mg/l Fresh water, Intermittent release; 0.118 mg/l marine water; 0.026 mg/l marine water, Intermittent release; 0.012 mg/l STP; 177 mg/l Sediment (Freshwater); 1.012 mg/kg Sediment (Marinewater); 0.101 mg/kg Soil; 0.052 mg/kg

#### Butan-2-one 0,0'-((vinylsilylidyne)trioxime (CAS: 2224-33-1)

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<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 1.06 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 0.15 mg/kg/day
<b>PNEC</b>	Fresh water; 0.019 mg/l marine water; 0.002 mg/l STP; 4.06 mg/l Sediment (Freshwater); 1136.562 mg/kg Sediment (Marinewater); 113.656 mg/kg Soil; 133.8 mg/kg Oral (food); 3.333 mg/kg food

### N-(3-(Trimethoxysilyl)propyl)ethylenediamine (CAS: 1760-24-3)

<b>PNEC</b>	Fresh water; 0.062 mg/l marine water; 0.006 mg/l STP; 25 mg/l Sediment (Freshwater); 0.22 mg/kg Sediment (Marinewater); 0.022 mg/kg
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### Diocetyl tin dilaurate (CAS: 3648-18-8)

<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 0.004 mg/m <sup>3</sup>
<b>PNEC</b>	Fresh water; 0.002 µg/l Fresh water, Intermittent release; 0.018 µg/l marine water; 0.0002 µg/l STP; 100 mg/l Sediment (Freshwater); 0.028 mg/kg Sediment (Marinewater); 0.003 mg/kg Soil; 0.006 mg/kg Oral (food); 0.02 mg/kg

### Methanol (CAS: 67-56-1)

<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 130 mg/m <sup>3</sup> Workers - Inhalation; Short term systemic effects: 130 mg/m <sup>3</sup> Workers - Inhalation; Long term local effects: 130 mg/m <sup>3</sup> Workers - Inhalation; Short term local effects: 130 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 20 mg/kg/day Workers - Dermal; Short term systemic effects: 20 mg/kg/day
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## 8.2. Exposure controls

### Protective equipment



### Appropriate engineering controls

Provide adequate general and local exhaust ventilation. All handling should only take place in well-ventilated areas. Observe any occupational exposure limits for the product or ingredients. This product is not to be used under conditions of poor ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### Eye/face protection

Chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

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<b>Hand protection</b>	It is recommended that chemical-resistant, impervious gloves are worn. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.
<b>Other skin and body protection</b>	Wear appropriate clothing to prevent any possibility of skin contact.
<b>Hygiene measures</b>	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap and water if skin becomes contaminated.
<b>Respiratory protection</b>	If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Organic vapour filter. Gas filter A, Colour code brown. Check that the respirator fits tightly and the filter is changed regularly.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use. Do not discharge into drains or watercourses or onto the ground.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Paste.
<b>Colour</b>	Various colours.
<b>Odour</b>	Slight.
<b>Odour threshold</b>	Not determined.
<b>pH</b>	Technically not feasible.
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	No information available.
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	No information available.
<b>Vapour pressure</b>	No information available.
<b>Vapour density</b>	No information available.
<b>Relative density</b>	1.28 @ 20C
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	Not determined.
<b>Viscosity</b>	~ 10,000 P @ 20°C
<b>Explosive properties</b>	Not considered to be explosive.



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**Oxidising properties**                      The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

### 9.2. Other information

**Other information**                      Not available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity**                                  See the other subsections of this section for further details.

### 10.2. Chemical stability

**Stability**                                      Stable at normal ambient temperatures and when used as recommended.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions**                      Not known. Will not polymerise.

### 10.4. Conditions to avoid

**Conditions to avoid**                      Avoid excessive heat for prolonged periods of time.

### 10.5. Incompatible materials

**Materials to avoid**                      Strong oxidising agents.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products**                      Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicological effects**                      Moisture curing process releases a small amount of butanone oxime (MEKO). MEKO is toxic if swallowed, harmful in contact with skin, causes skin irritation, causes serious eye damage, may cause an allergic skin reaction, may cause drowsiness or dizziness, may cause cancer, causes damage to the upper respiratory tract and may cause damage to the blood system through prolonged or repeated exposure. Curing process may release a small amount of methanol which is irritating to mucous membranes and has skin drying and narcotic effects.

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)**                                  Based on available data the classification criteria are not met.

**ATE oral (mg/kg)**                                  10,000.0

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)**                                  Based on available data the classification criteria are not met.

**ATE dermal (mg/kg)**                                  110,000.0

#### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)**                                  Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Skin corrosion/irritation**                      Based on available data the classification criteria are not met.

#### Animal data

Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

**Serious eye damage/irritation**                      Eye Irrit. 2 Causes serious eye irritation.

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### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

### Skin sensitisation

**Skin sensitisation** Skin Sens. 1 May cause an allergic skin reaction.

### Germ cell mutagenicity

**Summary** Based on available data the classification criteria are not met.

**Genotoxicity - in vitro** Does not contain any substances known to be mutagenic.

### Carcinogenicity

**Carcinogenicity** Carc. 1B May cause cancer.

**Target organ for carcinogenicity** Liver

### Reproductive toxicity

**Summary** Based on available data the classification criteria are not met.

**Reproductive toxicity - fertility** Does not contain any substances known to be toxic to reproduction.

### Specific target organ toxicity - single exposure

**STOT - single exposure** STOT SE 2 May cause damage to organs (Respiratory tract).

**Target organs** Respiratory tract

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Based on available data the classification criteria are not met.

### Aspiration hazard

**Aspiration hazard** Not relevant, due to the form of the product.

### **General information**

May cause cancer after repeated exposure. Moisture curing process releases a small amount of butanone oxime (MEKO). MEKO is toxic if swallowed, harmful in contact with skin, causes skin irritation, causes serious eye damage, may cause an allergic skin reaction, may cause drowsiness or dizziness, may cause cancer, causes damage to the upper respiratory tract and may cause damage to the blood system through prolonged or repeated exposure. Curing process may release a small amount of methanol which is irritating to mucous membranes and has skin drying and narcotic effects.

**Inhalation** Irritating to respiratory system. May cause damage to mucous membrane in nose. Drowsiness. Dizziness.

**Ingestion** May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach.

**Skin contact** May cause an allergic skin reaction.

**Eye contact** Causes serious eye irritation.

**Acute and chronic health hazards** May cause cancer. May cause damage to organs (Respiratory tract).

**Route of exposure** Skin and/or eye contact Oral Inhalation

**Target organs** Liver Respiratory tract

### Toxicological information on ingredients.

#### Butan-2-one 0,0'0''-(methylsilylidyne)trioxime

#### Acute toxicity - oral

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<b>Notes (oral LD<sub>50</sub>)</b>	LD <sub>50</sub> 2463 mg/kg, Oral, Rat
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	LD <sub>50</sub> >2000 mg/kg, Dermal, Rat
<b><u>Serious eye damage/irritation</u></b>	
<b>Summary</b>	Causes serious eye irritation.
<b>Serious eye damage/irritation</b>	OECD 405 Acute eye irritation / corrosion: Irritating. Rabbit
<b><u>Skin sensitisation</u></b>	
<b>Summary</b>	May cause an allergic skin reaction.
<b>Skin sensitisation</b>	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>Summary</b>	May cause damage to organs (Blood) through prolonged or repeated exposure.
<b>STOT - repeated exposure</b>	NOAEL 10 mg/kg/day, Oral, Rat LOAEL 50 mg/kg/day, Oral, Rat
<b>Target organs</b>	Blood

### Butanone oxime

<b><u>Acute toxicity - oral</u></b>	
<b>Notes (oral LD<sub>50</sub>)</b>	Acute Tox. 3 - H301 Toxic if swallowed.
<b>ATE oral (mg/kg)</b>	100.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	Acute Tox. 4 - H312 Harmful in contact with skin.
<b>ATE dermal (mg/kg)</b>	1,100.0
<b><u>Acute toxicity - inhalation</u></b>	
<b>Notes (inhalation LC<sub>50</sub>)</b>	Acute Tox. 4 - H332 Harmful if inhaled.
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Skin Irrit. 2 Causes skin irritation.
<b>Animal data</b>	Irritating.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Eye Dam. 1 - H318 Causes serious eye damage.
<b><u>Respiratory sensitisation</u></b>	
<b>Respiratory sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitisation</u></b>	
<b>Skin sensitisation</b>	Skin Sens. 1 May cause skin sensitisation or allergic reactions in sensitive individuals.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b>Genotoxicity - in vivo</b>	Negative.

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### Carcinogenicity

**Carcinogenicity** Carc. 1B May cause cancer.

**Target organ for carcinogenicity** Liver

**IARC carcinogenicity** None of the ingredients are listed or exempt.

### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development** Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

**STOT - single exposure** STOT SE 3 - H336 May cause drowsiness or dizziness. STOT SE 1 - H370 Causes damage to organs .

**Target organs** Central nervous system Respiratory tract

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** STOT RE 2 - H373 May cause damage to organs through prolonged or repeated exposure.

**Target organs** Blood system

### Aspiration hazard

**Aspiration hazard** Based on available data the classification criteria are not met.

### **General information**

May cause cancer after repeated exposure. Risk of cancer depends on duration and level of exposure. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** A single exposure may cause the following adverse effects: Pain or irritation. Intoxication. Narcotic effect. Muscle weakness. Nausea, vomiting.

**Ingestion** May cause sensitisation or allergic reactions in sensitive individuals. May cause stomach pain or vomiting. May cause severe internal injury.

**Skin contact** May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

**Eye contact** Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

**Acute and chronic health hazards** May cause cancer. Causes damage to organs (Respiratory tract). May cause damage to organs (Blood system) through prolonged or repeated exposure.

**Route of exposure** Ingestion Inhalation Skin and/or eye contact

**Target organs** Central nervous system Liver Respiratory tract

**Medical considerations** Skin disorders and allergies.

### Butan-2-one 0,0',0''-(vinylsilyldiyl)trioxime

### Acute toxicity - oral

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**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Oral, Rat

### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Dermal, Rat

### Serious eye damage/irritation

**Summary** Causes serious eye damage.

**Serious eye damage/irritation** OECD 405 Acute eye irritation / corrosion: Causes serious eye damage (rabbit).

### Skin sensitisation

**Summary** May cause an allergic skin reaction.

**Skin sensitisation** Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

### Specific target organ toxicity - repeated exposure

**Summary** May cause damage to organs (Blood) through prolonged or repeated exposure.

**STOT - repeated exposure** NOAEL 29.99 mg/kg/day, Oral, Rat Read-across data.

**Target organs** Blood

### N-(3-(Trimethoxysilyl)propyl)ethylenediamine

### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 2,295.0

**Species** Rat

**ATE oral (mg/kg)** 2,295.0

### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Dermal, Rabbit

### Acute toxicity - inhalation

**Summary** Harmful if inhaled.

**Acute toxicity inhalation (LC<sub>50</sub> dust/mist mg/l)** 1.49

**Species** Rat

**ATE inhalation (dusts/mists mg/l)** 1.49

### Serious eye damage/irritation

**Summary** Causes serious eye damage.

**Serious eye damage/irritation** Causes serious eye damage. Rabbit

### Skin sensitisation

**Summary** May cause an allergic skin reaction.

**Skin sensitisation** Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

### Specific target organ toxicity - repeated exposure

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**STOT - repeated exposure** STOT RE 2 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure.

**Target organs** Respiratory tract

### Diocetyl tin dilaurate

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Oral, Rat

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Dermal, Rat

#### Reproductive toxicity

**Reproductive toxicity - development** May damage the unborn child.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause damage to organs (Immune system).

**Target organs** Immune system

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** NOAEL 0.3 mg/kg/day, Oral, Rat

**Target organs** Immune system

### Methanol

#### Acute toxicity - oral

**Summary** Toxic if swallowed.

**ATE oral (mg/kg)** 100.0

#### Acute toxicity - dermal

**Summary** Toxic in contact with skin.

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 17100 mg/kg/day, Dermal, Rabbit

**ATE dermal (mg/kg)** 300.0

#### Acute toxicity - inhalation

**Summary** Toxic if inhaled.

**Notes (inhalation LC<sub>50</sub>)** LC50 6 hour exposure: 87.5 mg/l, Inhalation, Rat

#### Skin sensitisation

**Skin sensitisation** Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Negative.

**Genotoxicity - in vivo** Negative.

#### Reproductive toxicity

**Reproductive toxicity - fertility** Fertility - NOAEL <1000 mg/kg, Oral, Rat P Fertility - NOAEC 2.39 mg/l, Inhalation, Monkey P, F1

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**Reproductive toxicity - development** Maternal toxicity: - NOAEC: 13.3 mg/l, Inhalation, Rat Maternal toxicity: - LOAEC: 26.6 mg/l, Inhalation, Rat Teratogenicity: - NOAEC: 6.65 mg/l, Inhalation, Rat Teratogenicity: - LOAEC: 13.3 mg/l, Inhalation, Rat

### Specific target organ toxicity - single exposure

**STOT - single exposure** Causes damage to organs (optic nerve, Central nervous system) through prolonged or repeated exposure.

**Target organs** Central nervous system optic nerve

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** LOAEL 2340 mg/kg/day, Oral, Monkey NOAEC 1.06 mg/l, Inhalation, Rat

## SECTION 12: Ecological information

**Ecotoxicity** In cross-linked state not soluble in water. Easily separable from water by filtration.

### Ecological information on ingredients.

#### Butanone oxime

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

### 12.1. Toxicity

**Toxicity** There are no data for the product.

#### Acute aquatic toxicity

**Summary** Based on available data the classification criteria are not met.

#### Chronic aquatic toxicity

**Summary** Based on available data the classification criteria are not met.

### Ecological information on ingredients.

#### Butan-2-one 0,0'0''-(methylsilylidyne)trioxime

#### Acute aquatic toxicity

**Acute toxicity - fish** EC<sub>80</sub>, 96 hours: >115.34 mg/l, Oryzias latipes (Red killifish)  
Read-across data.

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 231.84 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 18.45 mg/l, Selenastrum capricornutum

#### Butanone oxime

**Toxicity** Based on available data the classification criteria are not met.

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)

**Acute toxicity - aquatic invertebrates** EC<sub>80</sub>, 48 hours: 201 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>80</sub>, 72 hours: 11.8 mg/l, Scenedesmus subspicatus

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**Acute toxicity - microorganisms** EC<sub>50</sub>, 17 hours: 281 mg/l, Pseudomonas putida

### Chronic aquatic toxicity

**Chronic toxicity - fish early life stage** NOEC, 14 days: > 100 mg/l, Oryzias latipes (Red killifish)

**Chronic toxicity - aquatic invertebrates** NOEC, 21 days: > 100 mg/l, Daphnia magna

### Butan-2-one 0,0',0''-(vinylsilyldiyl)trioxime

### Acute aquatic toxicity

**Acute toxicity - fish** EC<sub>50</sub>, 96 hours: >119.94 mg/l, Oryzias latipes (Red killifish)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 241.08 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 19.19 mg/l, Algae

### Chronic aquatic toxicity

**Chronic toxicity - aquatic invertebrates** NOEC, 21 days: =>119.94 mg/l, Daphnia magna

### N-(3-(Trimethoxysilyl)propyl)ethylenediamine

### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 597 mg/l, Brachydanio rerio (Zebra Fish)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 81 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 8.8 mg/l mg/l, Algae

### Chronic aquatic toxicity

**Chronic toxicity - aquatic invertebrates** NOEC, 21 days: => 1 mg/l, Daphnia magna

### Methanol

### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 15400 mg/l, Lepomis macrochirus (Bluegill)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 96 hours: 18260 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 96 hours: 22000 mg/l, Selenastrum capricornutum

**Acute toxicity - microorganisms** IC<sub>50</sub>, 3 hours: >1000 mg/l, Activated sludge

### Chronic aquatic toxicity

**Chronic toxicity - aquatic invertebrates** NOEC, 21 days: Reproduction: 122 mg/l, Daphnia magna  
NOEC, 21 days: Growth: 4380 mg/l, Daphnia magna

## 12.2. Persistence and degradability



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**Persistence and degradability** This product is not expected to be readily biodegradable.

### Ecological information on ingredients.

#### Butan-2-one 0,0',0''-(methylsilylidyne)trioxime

**Persistence and degradability** Not readily biodegradable.

#### Butanone oxime

**Persistence and degradability** The degradability of the product is not known.

**Biodegradation** Inherently biodegradable.

#### Butan-2-one 0,0',0''-(vinylsilylidyne)trioxime

**Persistence and degradability** Not readily biodegradable.

#### N-(3-(Trimethoxysilyl)propyl)ethylenediamine

**Persistence and degradability** The substance is readily biodegradable.

#### Methanol

**Biodegradation** Water - Degradation 88%: 10 days  
Water - Degradation 91%: 15 days  
Water - Degradation 95%: 20 days  
The substance is readily biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

**Partition coefficient** No information available.

### Ecological information on ingredients.

#### Butan-2-one 0,0',0''-(methylsilylidyne)trioxime

**Bioaccumulative potential** Bioaccumulation is unlikely.

#### Butanone oxime

**Bioaccumulative potential** No data available on bioaccumulation.

**Partition coefficient** log Kow: 0.63

#### Butan-2-one 0,0',0''-(vinylsilylidyne)trioxime

**Bioaccumulative potential** Bioaccumulation is unlikely.

#### N-(3-(Trimethoxysilyl)propyl)ethylenediamine

**Bioaccumulative potential** Bioaccumulation is unlikely.

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### Methanol

**Bioaccumulative potential** BCF: <10, Leuciscus idus (Golden orfe)

#### 12.4. Mobility in soil

**Mobility** The product is insoluble in water.

#### Ecological information on ingredients.

### Butanone oxime

**Mobility** No data available.

**Adsorption/desorption coefficient** Log Koc 0.55 Expected to have a low potential for adsorption.

### N-(3-(Trimethoxysilyl)propyl)ethylenediamine

**Adsorption/desorption coefficient** - Koc: 0.2 @ 20°C

### Methanol

**Henry's law constant** 0.461 Pa m<sup>3</sup>/mol @ 25°C

#### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

#### 12.6. Other adverse effects

**Other adverse effects** None known.

#### Ecological information on ingredients.

### Butanone oxime

**Other adverse effects** None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. When handling waste, the safety precautions applying to handling of the product should be considered.

**Disposal methods** Confirm disposal procedures with environmental engineer and local regulations. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

**Waste class** Recommended EWC Code 08 04 09\* HP4 Irritant HP5 STOT / Aspiration toxicity HP7 Carcinogenic HP13 Sensitising

## SECTION 14: Transport information

**General** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

### 14.1. UN number

Not applicable.

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### 14.2. UN proper shipping name

Not applicable.

### 14.3. Transport hazard class(es)

No transport warning sign required.

### 14.4. Packing group

Not applicable.

### 14.5. Environmental hazards

**Environmentally hazardous substance/marine pollutant**

No.

### 14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

**Annex II of MARPOL 73/78**

**and the IBC Code**

## SECTION 15: Regulatory information

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

#### **National regulations**

Health and Safety at Work etc. Act 1974 (as amended).

The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended).

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, UK SI 2019/720. The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2020, UK SI 2020/1567.

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, UK SI 2019/758, UK SI 2019/858 and UK SI 2019/1144. The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020, UK SI 2020/1577.

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].

#### **EU legislation**

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

#### **Guidance**

Workplace Exposure Limits EH40.

#### **Health and environmental listings**

Diocetyl tin dilaurate is on the EU Candidate List of Substances of Very High Concern (SVHCs) for Authorisation.

#### **Restrictions (Annex XVII Regulation 1907/2006)**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Entry number: 28

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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### SECTION 16: Other information

<b>Abbreviations and acronyms used in the safety data sheet</b>	<p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ATE: Acute Toxicity Estimate.</p> <p>BCF: Bioconcentration Factor.</p> <p>CAS: Chemical Abstracts Service.</p> <p>DMEL: Derived Minimal Effect Level.</p> <p>DNEL: Derived No Effect Level.</p> <p>EC<sub>50</sub>: 50% of maximal Effective Concentration.</p> <p>GHS: Globally Harmonized System.</p> <p>IATA: International Air Transport Association.</p> <p>IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).</p> <p>ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>Kow: Octanol-water partition coefficient.</p> <p>LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.</p> <p>LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>LOAEC: Lowest Observed Adverse Effect Concentration.</p> <p>LOAEL: Lowest Observed Adverse Effect Level.</p> <p>LOEC: Lowest Observed Effect Concentration.</p> <p>MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.</p> <p>NOAEC: No Observed Adverse Effect Concentration.</p> <p>NOAEL: No Observed Adverse Effect Level.</p> <p>NOEC: No Observed Effect Concentration.</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>PNEC: Predicted No Effect Concentration.</p> <p>REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>SVHC: Substances of Very High Concern.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p>
<b>Classification abbreviations and acronyms</b>	<p>Acute Tox. = Acute toxicity</p> <p>Carc. = Carcinogenicity</p> <p>Eye Dam. = Serious eye damage</p> <p>Eye Irrit. = Eye irritation</p> <p>Flam. Liq. = Flammable liquid</p> <p>Repr. = Reproductive toxicity</p> <p>Skin Irrit. = Skin irritation</p> <p>Skin Sens. = Skin sensitisation</p> <p>STOT RE = Specific target organ toxicity-repeated exposure</p> <p>STOT SE = Specific target organ toxicity-single exposure</p>
<b>Key literature references and sources for data</b>	Raw material suppliers SDS. Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a>
<b>Classification procedures according to Regulation (EC) 1272/2008</b>	Carc. 1B - H350, Eye Irrit. 2 - H319, Skin Sens. 1 - H317, STOT SE 2 - H371: Calculation method.
<b>Training advice</b>	Only trained personnel should use this material.

## ARBOSIL HDLM

<b>Revision comments</b>	Revised classification. Revised sections: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16.
<b>Revision date</b>	31/01/2022
<b>Revision</b>	2
<b>Supersedes date</b>	01/06/2015
<b>SDS number</b>	10430
<b>SDS status</b>	Approved.
<b>Hazard statements in full</b>	H225 Highly flammable liquid and vapour. H301 Toxic if swallowed. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H331 Toxic if inhaled. H332 Harmful if inhaled. H336 May cause drowsiness or dizziness. H350 May cause cancer. H360D May damage the unborn child. H370 Causes damage to organs (Respiratory tract). H370 Causes damage to organs . H371 May cause damage to organs (Immune system). H371 May cause damage to organs (Respiratory tract). H372 Causes damage to organs (Immune system) through prolonged or repeated exposure. H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure. H373 May cause damage to organs (Blood system) through prolonged or repeated exposure. H373 May cause damage to organs (Blood) through prolonged or repeated exposure if swallowed.

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