



## SAFETY DATA SHEET ARBO MIRROR ADHESIVE

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** ARBO MIRROR ADHESIVE

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

**Identified uses** Adhesive. Sealant.

**Uses advised against** Use only for intended applications.

#### 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. 1B - H317

**Environmental hazards** Not Classified

#### 2.2. Label elements

##### Hazard pictograms



**Signal word** Warning

**Hazard statements** H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.

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<b>Precautionary statements</b>	<p>P261 Avoid breathing vapours.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</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> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p>
<b>Supplemental label information</b>	EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.
<b>Contains</b>	Trimethoxyvinylsilane, N-(3-(Trimethoxysilyl)propyl)ethylenediamine, Dioctylbis(pentane-2,4-dionato-O,O')tin

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Curing process releases a small amount of methanol.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>Trimethoxyvinylsilane</b>	<b>&lt;2%</b>
CAS number: 2768-02-7	EC number: 220-449-8
REACH registration number: 01-2119513215-52-XXXX	
<b>Classification</b>	
Flam. Liq. 2 - H225	
Acute Tox. 4 - H332	
Skin Sens. 1B - H317	
<b>N-(3-(Trimethoxysilyl)propyl)ethylenediamine</b>	<b>&lt;2%</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>Dioctylbis(pentane-2,4-dionato-O,O')tin</b>	<b>&lt; 1%</b>
CAS number: 54068-28-9	EC number: 483-270-6
REACH registration number: 01-0000020199-67-XXXX	
<b>Classification</b>	
Skin Sens. 1 - H317	
STOT SE 2 - H371	

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<b>Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate</b> <span style="float: right;"><b>&lt; 1%</b></span>		
CAS number: 52829-07-9	EC number: 258-207-9	REACH registration number: 01-2119537297-32-XXXX
M factor (Acute) = 1		
<b>Classification</b> Eye Dam. 1 - H318 Repr. 2 - H361f Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411		
<b>Methanol</b> <span style="float: right;"><b>&lt; 0.1%</b></span>		
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** This product contains > 1% of titanium dioxide but less than 1% of all particles have a diameter  $\leq 10 \mu\text{m}$  therefore the classification Carc. 2; H351 does not apply. 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

<b>General information</b>	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.
<b>Skin contact</b>	It is important to remove the substance from the skin immediately. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognised skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.
<b>Eye contact</b>	Rinse with water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. 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

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<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of 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>	No specific symptoms known.
<b>Ingestion</b>	May cause sensitisation or allergic reactions in sensitive individuals.
<b>Skin contact</b>	May cause skin sensitisation or allergic reactions in sensitive individuals.
<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. May cause sensitisation or allergic reactions in sensitive individuals.
<b>Specific treatments</b>	Antidote for methanol poisoning is ethanol.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

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

**Specific hazards** None known.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Oxides of carbon. Oxides of nitrogen.

### 5.3. Advice for firefighters

**Protective actions during firefighting** Avoid breathing fire gases or vapours. Evacuate area. 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. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid contact with skin and eyes.

### 6.2. Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** 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. Clean contaminated objects and areas thoroughly, observing environmental regulations. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

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### 6.4. Reference to other sections

**Reference to other sections** 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.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

**Advice on general occupational hygiene** Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

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

**Storage precautions** Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

**Storage class** Combustible solids that can not be assigned to any of the aforementioned LGK

#### 7.3. Specific end use(s)

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

### 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

##### 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.

#### Trimethoxyvinylsilane (CAS: 2768-02-7)

**DNEL** Workers - Inhalation; Long term systemic effects: 27.6 mg/m<sup>3</sup>  
Workers - Dermal; Long term systemic effects: 3.9 mg/kg/day

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

**PNEC** 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

#### Diocylbis(pentane-2,4-dionato-O,O')tin (CAS: 54068-28-9)

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<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 84 mg/m <sup>3</sup>
	Workers - Inhalation; Short term systemic effects: 84 mg/m <sup>3</sup>
	Workers - Inhalation; Long term local effects: 0.091 mg/m <sup>3</sup>
	Workers - Inhalation; Short term local effects: 0.091 mg/m <sup>3</sup>
	Workers - Dermal; Long term systemic effects: 0.07 mg/kg/day

### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate (CAS: 52829-07-9)

<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 1.27 mg/m <sup>3</sup>
	Workers - Dermal; Long term systemic effects: 1.8 mg/kg/day
<b>PNEC</b>	Fresh water; 0.004 mg/l
	Intermittent release, Fresh water; 0.007 mg/l
	marine water; 0.38 µg/l
	STP; 1 mg/l
	Sediment (Freshwater); 5.9 mg/kg
	Sediment (Marinewater); 0.59 mg/kg
	Soil; 1.18 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

## 8.2. Exposure controls

### Protective equipment



### Appropriate engineering controls

Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

### Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield.

### Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. 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. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

### Other skin and body protection

May cause skin sensitisation or allergic reactions in sensitive individuals. Wear appropriate clothing to prevent repeated or prolonged skin contact.

### Hygiene measures

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

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<b>Respiratory protection</b>	No specific requirements are anticipated under normal conditions of use. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use.

### SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	Paste.
<b>Colour</b>	Off-white.
<b>Odour</b>	No characteristic odour.
<b>Odour threshold</b>	No information available.
<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>	Not applicable.
<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>	1.44 - 1.54 @ 20°C
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	~ 400°C
<b>Viscosity</b>	6,000 - 10,000 P @ 20°C
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

#### 9.2. Other information

<b>Other information</b>	Not available.
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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**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. Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** No potentially hazardous reactions known. Curing process releases a small amount of methanol.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid exposure to high temperatures or direct sunlight.

### 10.5. Incompatible materials

**Materials to avoid** No specific material or group of materials is likely to react with the product to produce a hazardous situation.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrous gases (NO<sub>x</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

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

#### Acute toxicity - dermal

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

#### Acute toxicity - inhalation

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

**ATE inhalation (vapours mg/l)** 1,190.48

**ATE inhalation (dusts/mists mg/l)** 129.34

#### Skin corrosion/irritation

**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.

#### Respiratory sensitisation

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

#### Skin sensitisation

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

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

#### Carcinogenicity

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

#### Reproductive toxicity



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**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** Not classified as a specific target organ toxicant after a single exposure.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

### Aspiration hazard

**Aspiration hazard** Not relevant. Solid.

### **General information**

The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Curing process releases a small amount of methanol. Methanol irritates mucous membranes, and has skin drying and narcotic effects.

### **Inhalation**

No specific symptoms known.

### **Ingestion**

May cause sensitisation or allergic reactions in sensitive individuals.

### **Skin contact**

May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin.

### **Eye contact**

Causes serious eye irritation.

### **Route of exposure**

Ingestion Inhalation Skin and/or eye contact

### **Target organs**

No specific target organs known.

### **Medical considerations**

Skin disorders and allergies.

### Toxicological information on ingredients.

#### Trimethoxyvinylsilane

##### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 6,899.0

**Species** Rat

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 7120 mg/kg, Oral, Rat

**ATE oral (mg/kg)** 6,899.0

##### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 3,158.0

**Species** Rabbit

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 3434 mg/kg, Dermal, Rabbit

**ATE dermal (mg/kg)** 3,158.0

##### Acute toxicity - inhalation

**Summary** Harmful if inhaled.

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<b>Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l)</b>	16.8
<b>Species</b>	Rat
<b>ATE inhalation (vapours mg/l)</b>	16.8
<b><u>Skin sensitisation</u></b>	
<b>Summary</b>	Skin Sens. 1B May cause an allergic skin reaction.

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

<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	2,295.0
<b>Species</b>	Rat
<b>ATE oral (mg/kg)</b>	2,295.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	LD <sub>50</sub> >2000 mg/kg, Dermal, Rabbit

<b><u>Acute toxicity - inhalation</u></b>	
<b>Summary</b>	Harmful if inhaled.
<b>Acute toxicity inhalation (LC<sub>50</sub> dust/mist mg/l)</b>	1.49
<b>Species</b>	Rat
<b>ATE inhalation (dusts/mists mg/l)</b>	1.49

<b><u>Serious eye damage/irritation</u></b>	
<b>Summary</b>	Causes serious eye damage.
<b>Serious eye damage/irritation</b>	Causes serious eye damage. 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>STOT - repeated exposure</b>	STOT RE 2 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure.
<b>Target organs</b>	Respiratory tract

### Diocylbis(pentane-2,4-dionato-O,O')tin

<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	2,500.0
<b>Species</b>	Rat

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<b>ATE oral (mg/kg)</b>	2,500.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	LD <sub>50</sub> >2000 mg/kg, Oral, Rat
<b><u>Skin sensitisation</u></b>	
<b>Summary</b>	Skin Sens. 1B May cause an allergic skin reaction.
<b>Skin sensitisation</b>	Local Lymph Node Assay (LLNA) - Mouse: Sensitising.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>Summary</b>	STOT SE 2 May cause damage to organs (Immune system, Thymus) through prolonged or repeated exposure.
<b>STOT - single exposure</b>	NOAEL 1.8 mg/kg/day, Oral, Rat 7 days Read-across data.
<b>Target organs</b>	Immune system Thymus

### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	3,700.0
<b>Species</b>	Rat
<b>ATE oral (mg/kg)</b>	3,700.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Acute toxicity dermal (LD<sub>50</sub> mg/kg)</b>	3,170.0
<b>Species</b>	Rat
<b>ATE dermal (mg/kg)</b>	3,170.0
<b><u>Serious eye damage/irritation</u></b>	
<b>Summary</b>	Causes serious eye damage.
<b>Serious eye damage/irritation</b>	Causes serious eye damage. Rabbit
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Suspected of damaging fertility.

## SECTION 12: Ecological information

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

### 12.1. Toxicity

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

#### 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.

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### Ecological information on ingredients.

#### Trimethoxyvinylsilane

##### Acute aquatic toxicity

<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: 191 mg/l, Oncorhynchus mykiss (Rainbow trout)
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 168.7 mg/l, Daphnia magna
<b>Acute toxicity - aquatic plants</b>	EC <sub>50</sub> , 72 hours: >89 mg/l, Freshwater algae

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

##### Acute aquatic toxicity

<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: 597 mg/l, Brachydanio rerio (Zebra Fish)
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 81 mg/l, Daphnia magna
<b>Acute toxicity - aquatic plants</b>	EC <sub>50</sub> , 72 hours: 8.8 mg/l mg/l, Algae

##### Chronic aquatic toxicity

<b>Chronic toxicity - aquatic invertebrates</b>	NOEC, 21 days: => 1 mg/l, Daphnia magna
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#### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

##### Acute aquatic toxicity

<b>LE(C)<sub>50</sub></b>	0.1 < L(E)C <sub>50</sub> ≤ 1
<b>M factor (Acute)</b>	1
<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: 4.4 mg/l, Lepomis macrochirus (Bluegill)
<b>Acute toxicity - aquatic invertebrates</b>	LC <sub>50</sub> , 48 hours: 8.58 mg/l, Daphnia magna
<b>Acute toxicity - aquatic plants</b>	EC <sub>50</sub> , 72 hours: 0.705 mg/l, Pseudokirchneriella subcapitata

##### Chronic aquatic toxicity

<b>Chronic toxicity - aquatic invertebrates</b>	NOEC, 21 days: 0.23 mg/l, Daphnia magna
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### 12.2. Persistence and degradability

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

### Ecological information on ingredients.

#### Trimethoxyvinylsilane

<b>Persistence and degradability</b>	Not readily biodegradable.
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#### N-(3-(Trimethoxysilyl)propyl)ethylenediamine

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

### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

**Biodegradation** - Degradation 24%: 28 days

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation. Bioaccumulation is unlikely.

**Partition coefficient** No information available.

### Ecological information on ingredients.

#### Trimethoxyvinylsilane

**Bioaccumulative potential** Bioaccumulation is unlikely.

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

**Bioaccumulative potential** Bioaccumulation is unlikely.

### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

**Partition coefficient** log Pow: 0.35

### 12.4. Mobility in soil

**Mobility** No data available. The product is insoluble in water.

### Ecological information on ingredients.

#### Trimethoxyvinylsilane

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

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

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

### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

**Adsorption/desorption coefficient** Soil - Log Koc: 4.2 @ 20°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.

## 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.

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<b>Disposal methods</b>	Collect and place in suitable waste disposal containers and seal securely.
<b>Waste class</b>	HP4 Irritant HP13 Sensitising The waste code classification is to be carried out according to the European Waste Catalogue (EWC). 08 04 09*

### SECTION 14: Transport information

<b>General</b>	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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#### 14.1. UN number

Not applicable.

#### 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).  
Control of Substances Hazardous to Health Regulations 2002 (as amended).  
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].  
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.

##### **EU legislation**

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).  
Commission Regulation (EU) No 2015/830 of 28 May 2015.  
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).

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**Guidance** Workplace Exposure Limits EH40.

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### SECTION 16: Other information

<b>Abbreviations and acronyms used in the safety data sheet</b>	<p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>IATA: International Air Transport Association.</p> <p>ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>CAS: Chemical Abstracts Service.</p> <p>ATE: Acute Toxicity Estimate.</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>EC<sub>50</sub>: 50% of maximal Effective Concentration.</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p>
<b>Classification abbreviations and acronyms</b>	<p>Eye Irrit. = Eye irritation</p> <p>Skin Sens. = Skin sensitisation</p>
<b>Key literature references and sources for data</b>	Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a> SDS from supplier.
<b>Classification procedures according to Regulation (EC) 1272/2008</b>	Eye Irrit. 2 - H319: Skin Sens. 1B - H317: : Calculation method.
<b>Training advice</b>	Only trained personnel should use this material.
<b>Revision comments</b>	Revised sections: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16.
<b>Revision date</b>	09/02/2022
<b>Revision</b>	2
<b>Supersedes date</b>	13/04/2017
<b>SDS number</b>	10258
<b>SDS status</b>	Approved.

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### Hazard statements in full

H225 Highly flammable liquid and vapour.  
H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
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.  
H361f Suspected of damaging fertility.  
H370 Causes damage to organs .  
H371 May cause damage to organs (Immune system, Thymus).  
H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.