



## SAFETY DATA SHEET ARBOTHANE 1245

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

#### 1.1. Product identifier

**Product name** ARBOTHANE 1245

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

**Identified uses** Sealant. Adhesive.

**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** Resp. Sens. 1 - H334

**Environmental hazards** Not Classified

#### 2.2. Label elements

##### Hazard pictograms



**Signal word** Danger

**Hazard statements** H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Precautionary statements** P261 Avoid breathing vapours.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

## ARBOTHANE 1245

<b>Supplemental label information</b>	EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust. As from 24 August 2023 adequate training is required before industrial or professional use.
<b>Contains</b>	4,4'-Methylenediphenyl diisocyanate, Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

### 2.3. Other hazards

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>Poly(Vinyl Chloride)</b>		<b>25 - &lt; 50%</b>
CAS number: 9002-86-2		
<b>Classification</b>		
Not Classified		
<b>Reaction mass of ethylbenzene and xylene</b>		<b>3 - 7%</b>
CAS number: 1330-20-7	EC number: 905-588-0	REACH registration number: 01-2119488216-32-XXXX
<b>Classification</b>		
Flam. Liq. 3 - H226		
Acute Tox. 4 - H312		
Acute Tox. 4 - H332		
Skin Irrit. 2 - H315		
Eye Irrit. 2 - H319		
STOT SE 3 - H335		
STOT RE 2 - H373		
Asp. Tox. 1 - H304		
<b>Triiron tetraoxide</b>		<b>&lt; 5%</b>
CAS number: 1317-61-9	EC number: 215-277-5	REACH registration number: 01-2119457646-28-XXXX
<b>Classification</b>		
Not Classified		
<b>Titanium dioxide</b>		<b>&lt; 5%</b>
CAS number: 13463-67-7	EC number: 236-675-5	REACH registration number: 01-2119489379-17-XXXX
<b>Classification</b>		
Carc. 2 - H351		

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<b>Diiron trioxide</b>		<b>&lt; 5%</b>
CAS number: 1309-37-1	EC number: 215-168-2	REACH registration number: 01-2119457614-35-XXXX
<b>Classification</b> Not Classified		
<b>Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</b>		<b>&lt; 5%</b>
CAS number: —	EC number: 926-141-6	REACH registration number: 01-2119456620-43-XXXX
<b>Classification</b> Asp. Tox. 1 - H304		
<b>Iron hydroxide oxide yellow</b>		<b>&lt;2%</b>
CAS number: 51274-00-1	EC number: 257-098-5	REACH registration number: 01-2119457554-33-XXXX
<b>Classification</b> Not Classified		
<b>Calcium oxide</b>		<b>&lt;2%</b>
CAS number: 1305-78-8	EC number: 215-138-9	REACH registration number: 01-2119475325-36-XXXX
<b>Classification</b> Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335		
<b>4,4'-Methylenediphenyl diisocyanate</b>		<b>&lt; 1%</b>
CAS number: 101-68-8	EC number: 202-966-0	REACH registration number: 01-2119457014-47-XXXX
<b>Classification</b> Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373		

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<b>Chromium (III) oxide</b>		<b>&lt; 1%</b>
CAS number: 1308-38-9	EC number: 215-160-9	REACH registration number: 01-2119433951-39-XXXX
<b>Classification</b> Not Classified		
<b>Carbon black</b>		<b>&lt; 1%</b>
CAS number: 1333-86-4	EC number: 215-609-9	REACH registration number: 01-2119384822-32-XXXX
<b>Classification</b> Not Classified		
<b>Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate</b>		<b>&lt; 0.1%</b>
CAS number: —	EC number: 915-687-0	REACH registration number: 01-2119491304-40-XXXX
M factor (Acute) = 1	M factor (Chronic) = 1	
<b>Classification</b> Skin Sens. 1A - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	If in doubt, get medical attention promptly.
<b>Inhalation</b>	IF INHALED: 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. Do not induce vomiting. Get medical attention if any discomfort continues.
<b>Skin contact</b>	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.
<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>	Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.
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<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause inhalation hypersensitivity (occupational asthma) in sensitive individuals. May cause coughing and difficulties in breathing.
<b>Ingestion</b>	Nausea, vomiting.
<b>Skin contact</b>	May cause sensitisation by skin contact. Blistering may occur. Allergic rash. Itchiness.
<b>Eye contact</b>	May irritate eyes.

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

<b>Notes for the doctor</b>	Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** In case of fire: Use an extinguishing media suitable for ordinary combustible material such as water or foam to extinguish.

**Unsuitable extinguishing media** None known.

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

**Specific hazards** None inherent in this product.

**Hazardous combustion products** Oxides of nitrogen. Oxides of carbon. Carbon monoxide (CO). Isocyanates. Hydrogen cyanide (HCN).

### 5.3. Advice for firefighters

**Protective actions during firefighting** Control run-off water by containing and keeping it out of sewers and watercourses.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Wear full protective clothing, including helmet, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

## SECTION 6: Accidental release measures

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

**Personal precautions** Avoid inhalation of vapours and contact with skin and eyes. Take off immediately all contaminated clothing and wash it before reuse. Provide adequate ventilation. Large Spillages: Mechanical ventilation or local exhaust ventilation may be required. This product must not be handled in a confined space without adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Wear protective clothing as described in Section 8 of this safety data sheet.

### 6.2. Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground.

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

**Methods for cleaning up** Collect spillage. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Dispose of contents/container in accordance with national regulations.

### 6.4. Reference to other sections

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see Section 13. See Section 11 for additional information on health hazards.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Do not handle until all safety precautions have been read and understood. Avoid contact with oxidising agents. Use only outdoors or in a well-ventilated area. Do not breathe vapour/spray. Avoid contact with skin and eyes. Wash contaminated skin thoroughly after handling. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. For personal protection, see Section 8.

**Advice on general occupational hygiene** Do not eat, drink or smoke when using this product.

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

**Storage precautions** Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from the following materials: Acids. Oxidising materials. Amines.

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

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

**Usage description** Sealant.

### SECTION 8: Exposure controls/Personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### **Poly(Vinyl Chloride)**

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup> (inhalable dust), WEL 4 mg/m<sup>3</sup> (respirable dust)

##### **Reaction mass of ethylbenzene and xylene**

Long-term exposure limit (8-hour TWA): WEL 50 ppm 220 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 100 ppm 441 mg/m<sup>3</sup>

Sk, BMGV

##### **Triiron tetraoxide**

Iron salts (as Fe): Long-term exposure limit (8-hour TWA): WEL 1 mg/m<sup>3</sup> Short-term exposure limit (15-minute): WEL 2 mg/m<sup>3</sup>

##### **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

##### **Diiron trioxide**

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

Long-term exposure limit (8-hour TWA): WEL 5 mg/m<sup>3</sup> fume

Short-term exposure limit (15-minute): WEL 10 mg/m<sup>3</sup> fume  
as Fe

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

##### **Iron hydroxide oxide yellow**

Iron salts (as Fe): Long-term exposure limit (8-hour TWA): WEL 1 mg/m<sup>3</sup> Short-term exposure limit (15-minute): WEL 2 mg/m<sup>3</sup>

##### **Calcium oxide**

Long-term exposure limit (8-hour TWA): WEL 2 mg/m<sup>3</sup>

Long-term exposure limit (8-hour TWA): WEL 1 mg/m<sup>3</sup> respirable fraction

Short-term exposure limit (15-minute): WEL 4 mg/m<sup>3</sup> respirable fraction

##### **4,4'-Methylenediphenyl diisocyanate**

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Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m<sup>3</sup>(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m<sup>3</sup>(Sen)

### Chromium (III) oxide

Chromium (III) compounds (as Cr): Long-term exposure limit (8-hour TWA): WEL 0.5 mg/m<sup>3</sup>

### Carbon black

Long-term exposure limit (8-hour TWA): WEL 3.5 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 7 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

BMGV = Biological monitoring guidance value.

### Reaction mass of ethylbenzene and xylene (CAS: 1330-20-7)

<b>Biological limit values</b>	Xylene, o-, m-, p- or mixed isomers: 650 mmol methyl hippuric acid/mol creatinine in urine. Post shift.
<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 221 mg/m <sup>3</sup> Workers - Inhalation; Short term systemic effects: 442 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 212 mg/kg/day
<b>PNEC</b>	- Fresh water; 0.327 mg/l - marine water; 0.327 mg/l - Intermittent release; 0.327 mg/l - STP; 6.58 mg/l - Sediment (Freshwater); 12.46 mg/kg - Sediment (Marinewater); 12.46 mg/kg - Soil; 2.31 mg/kg

### Calcium oxide (CAS: 1305-78-8)

<b>DNEL</b>	Workers - Inhalation; Long term local effects: 1 mg/m <sup>3</sup> Workers - Inhalation; Short term local effects: 4 mg/m <sup>3</sup>
<b>PNEC</b>	- Fresh water; 0.37 mg/l - marine water; 0.24 mg/l - Intermittent release; 0.37 mg/l - STP; 2.27 mg/l - Soil; 817.4 mg/kg

### 4,4'-Methylenediphenyl diisocyanate (CAS: 101-68-8)

<b>Biological limit values</b>	Isocyanates BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine. Sampling time: At the end of the period of exposure.
<b>DNEL</b>	Workers - Inhalation; Long term local effects: 0.05 mg/m <sup>3</sup> Workers - Inhalation; Short term local effects: 0.1 mg/m <sup>3</sup>
<b>PNEC</b>	Fresh water; 1 mg/l Intermittent release; 10 mg/l marine water; 0.1 mg/l STP; 1 mg/l Soil; 1 mg/kg

### Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

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<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 0.68 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 0.5 mg/kg/day
<b>PNEC</b>	Fresh water; 0.002 mg/l Intermittent release; 0.009 mg/l marine water; 0.0002 mg/l STP; 1 mg/l Sediment (Freshwater); 1.05 mg/kg Sediment (Marinewater); 0.11 mg/kg Soil; 0.21 mg/kg

### 8.2. Exposure controls

#### Protective equipment



#### Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. In case of insufficient ventilation, wear suitable respiratory equipment.

#### Eye/face protection

Safety glasses with side shields. Use eye protection conforming to EN 166.

#### Hand protection

To protect hands from chemicals, gloves should comply with European Standard EN374. Gloves made from the following material(s) are recommended: Material: Polymer laminate, Thickness (mm): > 0.30, Breakthrough Time: > 8 hours. Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

#### Other skin and body protection

Wear appropriate clothing to prevent skin contamination.

#### Hygiene measures

Do not eat, drink or smoke when using this product.

#### Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. Based on the results of the exposure assessment, the following respirator is recommended: Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates. Use a respirator conforming to EN 140 or EN 136: filter types A & P.

## SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	Solid. Paste.
<b>Colour</b>	Grey.
<b>Odour</b>	Mild.
<b>Odour threshold</b>	No data available.
<b>pH</b>	Reacts with water.
<b>Melting point</b>	No data available.
<b>Initial boiling point and range</b>	137°C
<b>Flash point</b>	>= 70°C / 158°F Method: ISO Method
<b>Evaporation rate</b>	No data available.
<b>Flammability (solid, gas)</b>	Not classified.



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<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 0.6 % Upper flammable/explosive limit: 8 %
<b>Vapour pressure</b>	No data available.
<b>Vapour density</b>	No data available.
<b>Relative density</b>	1.16
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient</b>	No data available.
<b>Auto-ignition temperature</b>	>=200°C
<b>Decomposition Temperature</b>	No data available.
<b>Viscosity</b>	No data available.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.
<b><u>9.2. Other information</u></b>	
<b>Other information</b>	Not available.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

**Reactivity** This material react with certain agents under certain conditions - see other subsections.

#### 10.2. Chemical stability

**Stability** Stable under the prescribed storage conditions.

#### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Hazardous polymerisation will not occur.

#### 10.4. Conditions to avoid

**Conditions to avoid** Not known.

#### 10.5. Incompatible materials

**Materials to avoid** Alcohols. Amines. Alkali metals. Alkaline earth metals. Strong acids. Water Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure build up.

#### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of nitrogen. Isocyanates. Hydrogen cyanide (HCN).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity - oral

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

**Notes (oral LD<sub>50</sub>)** ATEmix >5000 mg/kg

##### Acute toxicity - dermal

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

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<b>ATE dermal (mg/kg)</b>	18,333.33
<b><u>Acute toxicity - inhalation</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b>ATE inhalation (vapours mg/l)</b>	183.33
<b><u>Skin corrosion/irritation</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b><u>Serious eye damage/irritation</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b>Serious eye damage/irritation</b>	Bridging principle (Substantially similar mixtures).
<b><u>Respiratory sensitisation</u></b>	
<b>Summary</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b><u>Skin sensitisation</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b>Skin sensitisation</b>	May cause sensitisation or allergic reactions in sensitive individuals.
<b><u>Germ cell mutagenicity</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b>Carcinogenicity</b>	The carcinogenicity classification for titanium dioxide is not applicable based on physical form (material is not a powder).
<b><u>Reproductive toxicity</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b><u>Aspiration hazard</u></b>	
<b>Summary</b>	Based on available data the classification criteria are not met.
<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing, chest tightness, feeling of chest pressure. Wheezing/breathing difficulties. Hoarseness
<b>Ingestion</b>	Irritating. Nausea, vomiting.
<b>Skin contact</b>	Causes mild skin irritation. May cause skin sensitisation or allergic reactions in sensitive individuals. Itchiness. Blistering may occur. Redness.
<b>Eye contact</b>	May irritate eyes.
<b>Acute and chronic health hazards</b>	Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
<b><u>Toxicological information on ingredients.</u></b>	

**Poly(Vinyl Chloride)**

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### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >5000 mg/kg, Oral,

### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >5000 mg/kg, Dermal,

### Germ cell mutagenicity

**Genotoxicity - in vitro** Negative.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** NOAEL 0.013 mg/l, Inhalation,

### Reaction mass of ethylbenzene and xylene

### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 3,523.0

**Species** Rat

### Acute toxicity - dermal

**Summary** Harmful in contact with skin.

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 12,126.0

**Species** Rabbit

**ATE dermal (mg/kg)** 1,100.0

### Acute toxicity - inhalation

**Summary** Harmful if inhaled.

**Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l)** 27.124

**Species** Rat

**ATE inhalation (vapours mg/l)** 11.0

### Skin corrosion/irritation

**Skin corrosion/irritation** Causes skin irritation.

**Animal data** Irritating. Rabbit

### Serious eye damage/irritation

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

### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure

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

**STOT - repeated exposure** NOAEC >=3515 mg/m<sup>3</sup>, Inhalation, Rat NOAEL 250 mg/kg, Oral, Rat

### Aspiration hazard

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**Aspiration hazard** May be fatal if swallowed and enters airways.

### Triiron tetraoxide

**Acute toxicity - oral**

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 3700 mg/kg, Oral,

**Acute toxicity - dermal**

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 3100 mg/kg, Dermal,

### Titanium dioxide

**Acute toxicity - oral**

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 10,000.0

**Species** Rat

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >10000 mg/kg, Oral, Rat

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

**Acute toxicity - dermal**

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 10,000.0

**Species** Rabbit

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >10000 mg/kg, Dermal, Rabbit

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

**Acute toxicity - inhalation**

**Acute toxicity inhalation (LC<sub>50</sub> dust/mist mg/l)** 6.82

**Species** Rat

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> >6.82 mg/l, Inhalation, Rat

**ATE inhalation (dusts/mists mg/l)** 6.82

**Carcinogenicity**

**Carcinogenicity** Suspected of causing cancer by inhalation.

**Target organ for carcinogenicity** Lungs

### Diiron trioxide

**Acute toxicity - oral**

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 3700 mg/kg, Oral,

**Acute toxicity - dermal**

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 3100 mg/kg, Dermal,

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

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### Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> mg/kg) 5,000.0

Species Rat

Notes (oral LD<sub>50</sub>) LD<sub>50</sub> >5000 mg/kg, Oral, Rat

ATE oral (mg/kg) 5,000.0

### Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> mg/kg) 5,000.0

Species Rabbit

Notes (dermal LD<sub>50</sub>) LD<sub>50</sub> >5000 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 5,000.0

### Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) LC50 estimated to be 20 - 50 mg/l (vapour)

### Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

### Iron hydroxide oxide yellow

### Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> mg/kg) 10,000.0

Species Rat

Notes (oral LD<sub>50</sub>) LD<sub>50</sub> >10000 mg/kg, Oral, Rat

ATE oral (mg/kg) 10,000.0

### Acute toxicity - inhalation

Acute toxicity inhalation (LC<sub>50</sub> dust/mist mg/l) 5.05

Species Rat

Notes (inhalation LC<sub>50</sub>) Read-across data.

ATE inhalation (dusts/mists mg/l) 5.05

### Calcium oxide

### 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> >2500 mg/kg, Dermal, Rabbit

### Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) LC50 >6.05 mg/l, Inhalation, Rat Read-across data.

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### Skin corrosion/irritation

**Animal data** Causes skin irritation. Rabbit

### Serious eye damage/irritation

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

### Germ cell mutagenicity

**Genotoxicity - in vitro** Negative.

### Carcinogenicity

**Carcinogenicity** There is no evidence that the product can cause cancer. Read-across data.

### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause respiratory irritation.

### 4,4'-Methylenediphenyl diisocyanate

### Acute toxicity - oral

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

### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 9,400.0

**Species** Rabbit

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >9400 mg/kg, Dermal, Rabbit

**ATE dermal (mg/kg)** 9,400.0

### Acute toxicity - inhalation

**Summary** Harmful if inhaled.

**Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l)** 0.31

**Species** Rat

**ATE inhalation (vapours mg/l)** 11.0

### Skin corrosion/irritation

**Summary** Causes skin irritation.

### Serious eye damage/irritation

**Summary** Causes serious eye irritation.

### Respiratory sensitisation

**Summary** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### Skin sensitisation

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

**Skin sensitisation** Local Lymph Node Assay (LLNA) - Mouse: Sensitising.

### Carcinogenicity

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<b>Summary</b>	Suspected of causing cancer.
<b>Carcinogenicity</b>	NOAEC 1 mg/m <sup>3</sup> , Inhalation, Rat
<b>Target organ for carcinogenicity</b>	Lungs
<b>IARC carcinogenicity</b>	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure

**Summary** May cause damage to organs (Respiratory system, lungs) through prolonged or repeated exposure if inhaled.

**STOT - repeated exposure** LOAEC 1 mg/m<sup>3</sup>, Inhalation, Rat 1 year

**Target organs** Respiratory system, lungs

### Chromium (III) oxide

#### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 5,000.0

**Species** Rat

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >5000 mg/kg, Oral, Rat

**ATE oral (mg/kg)** 5,000.0

#### Acute toxicity - inhalation

**Acute toxicity inhalation (LC<sub>50</sub> dust/mist mg/l)** 5.41

**Species** Rat

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> >5.41 mg/l, Inhalation, Rat

**ATE inhalation (dusts/mists mg/l)** 5.41

### Carbon black

#### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 8,000.0

**Species** Rat

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >8000 mg/kg, Oral, Rat

**ATE oral (mg/kg)** 8,000.0

### Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

#### Acute toxicity - oral

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**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 3,230.0

**Species** Rat

**ATE oral (mg/kg)** 3,230.0

### Acute toxicity - dermal

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 3,170.0

**Species** Rat

**ATE dermal (mg/kg)** 3,170.0

### Skin sensitisation

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

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

## SECTION 12: Ecological information

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

### 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.

#### Reaction mass of ethylbenzene and xylene

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 2.6 mg/l,

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 24 hours: 1 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 73 hours: 1.3 mg/l, Algae

#### Chronic aquatic toxicity

**Chronic toxicity - fish early life stage** NOEC, 56 days: >1.3 mg/l, Oncorhynchus mykiss (Rainbow trout)

**Chronic toxicity - aquatic invertebrates** NOEC, 7 days: 0.96 mg/l, Daphnia magna

#### Triiron tetraoxide

#### Acute aquatic toxicity

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: >50000 mg/l, Daphnia magna



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**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: >50000 mg/l, Algae

### Titanium dioxide

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: >100 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: >10000 mg/l, Diatom

### Diiron trioxide

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 48 hours: >1000 mg/l, Leuciscus idus (Golden orfe)

### Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

#### Acute aquatic toxicity

**Acute toxicity - fish** LL<sub>50</sub>, 96 hours: >1000 mg/l, Oncorhynchus mykiss (Rainbow trout)

**Acute toxicity - aquatic invertebrates** EL50, 48 hours: >1000 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EL50, 72 hours: >1000 mg/l, Algae

### Iron hydroxide oxide yellow

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: >100000 mg/l, Brachydanio rerio (Zebra Fish)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 100 mg/l, Daphnia magna

### Calcium oxide

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 457 mg/l, Gasterosteus aculeatus (Three-spined stickleback)  
Read-across data.

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 96 hours: 158 mg/l, Crangon septemspinosa (sand shrimp)  
Read-across data.

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 184.57 mg/l, Pseudokirchneriella subcapitata  
LOEC, 72 hours: 80 mg/l, Pseudokirchneriella subcapitata  
NOEC, 72 hours: 48 mg/l, Pseudokirchneriella subcapitata  
Read-across data.

**Acute toxicity - microorganisms** EC<sub>50</sub>, 3 hours: 300.4 mg/l, Activated sludge  
Read-across data.

#### Chronic aquatic toxicity

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**Chronic toxicity - aquatic invertebrates** LC<sub>50</sub>, 14 days: 53.1 mg/l, Crangon septemspinosa (sand shrimp)  
NOEC, 14 days: 32 mg/l, Crangon septemspinosa (sand shrimp)  
Read-across data.

### 4,4'-Methylenediphenyl diisocyanate

#### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: >1000 mg/l, Brachydanio rerio (Zebra Fish)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 24 hours: >1000 mg/l, Daphnia magna

#### Chronic aquatic toxicity

**Chronic toxicity - aquatic invertebrates** NOEC, 21 days: >=10 mg/l, Daphnia magna

### Chromium (III) oxide

**Toxicity** No toxicity observed at limit of water solubility.

### Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

#### Acute aquatic toxicity

**LE(C)<sub>50</sub>** 0.1 < L(E)C<sub>50</sub> ≤ 1

**M factor (Acute)** 1

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 0.9 mg/l, Oncorhynchus mykiss (Rainbow trout)

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 1.68 mg/l, Desmodium subspicatus

#### Chronic aquatic toxicity

**M factor (Chronic)** 1

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

## 12.2. Persistence and degradability

**Persistence and degradability** No data available.

## Ecological information on ingredients.

### Reaction mass of ethylbenzene and xylene

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

**Biodegradation** - Degradation 98%: 28 days

### Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

**Biodegradation** - Degradation 69%: 28 days

### Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

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**Persistence and degradability** Not readily biodegradable.

**Biodegradation** - Degradation 38%: 28 days

### 12.3. Bioaccumulative potential

**Partition coefficient** No data available.

### Ecological information on ingredients.

#### Reaction mass of ethylbenzene and xylene

**Bioaccumulative potential** BCF: 25.9, Oncorhynchus mykiss (Rainbow trout) 56 days

#### Titanium dioxide

**Bioaccumulative potential** BCF: 9.6, Cyprinus carpio (Common carp) 42 days

#### 4,4'-Methylenediphenyl diisocyanate

**Partition coefficient** log Pow: 4.51

#### Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

**Bioaccumulative potential** BCF: < 31.4, Cyprinus carpio (Common carp) 56 days

### 12.4. Mobility in soil

**Mobility** No data available.

### 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** This material does not contain any substances considered to be endocrine disruptors for environmental effects.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** When handling waste, the safety precautions applying to handling of the product should be considered.

**Disposal methods** Dispose of contents/container in accordance with national regulations. This material and its container must be disposed of as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

**Waste class** Sensitising. 08 04 09\*

## 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

<b>National regulations</b>	Control of Substances Hazardous to Health Regulations 2002 (as amended). Health and Safety at Work etc. Act 1974 (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.
<b>EU legislation</b>	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).
<b>Guidance</b>	Workplace Exposure Limits EH40.
<b>Authorisations (Annex XIV Regulation 1907/2006)</b>	None
<b>Restrictions (Annex XVII Regulation 1907/2006)</b>	Entry number: 56 Entry number: 74

### 15.2. Chemical safety assessment

Mixture: No chemical safety assessment has been carried out.

## SECTION 16: Other information

## ARBOTHANE 1245

<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>DNEL: Derived No Effect Level.</p> <p>EC<sub>50</sub>: 50% of maximal Effective Concentration.</p> <p>IATA: International Air Transport Association.</p> <p>ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>PNEC: Predicted No Effect Concentration.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p>
<b>Key literature references and sources for data</b>	SDS from supplier. 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>	Resp. Sens. 1 - H334: Calculation method.
<b>Revision comments</b>	Revised sections: 1, 2, 3, 4, 7, 8, 11, 12, 13, 15, 16.
<b>Revision date</b>	11/01/2022
<b>Revision</b>	6
<b>Supersedes date</b>	09/11/2021
<b>SDS number</b>	10273
<b>SDS status</b>	Approved.
<b>Hazard statements in full</b>	<p>H226 Flammable liquid and vapour.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H312 Harmful in contact with skin.</p> <p>H315 Causes skin irritation.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H351 Suspected of causing cancer.</p> <p>H351 Suspected of causing cancer by inhalation.</p> <p>H373 May cause damage to organs (Hearing organs) through prolonged or repeated exposure.</p> <p>H373 May cause damage to organs (Respiratory system, lungs) through prolonged or repeated exposure if inhaled.</p> <p>H400 Very toxic to aquatic life.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p>

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.