



## SAFETY DATA SHEET ARBOKOL 2150 CURING AGENT

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

#### 1.1. Product identifier

**Product name** ARBOKOL 2150 CURING AGENT

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

**Identified uses** Curing agent for Arbokol 2150 polysulphide sealant.

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

**Supplier** Adshead Ratcliffe & Co. Ltd.  
Derby Road, Belper  
Derbyshire.  
DE56 1WJ  
Tel. (+44) 01773 826661  
Fax. (+44) 01773 821215  
sds@arbo.co.uk

#### 1.4. Emergency telephone number

**Emergency telephone** (+44) 01773 826661 (office hours only)

### SECTION 2: Hazards identification

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

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

**Physical hazards** Not Classified

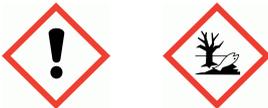
**Health hazards** Acute Tox. 4 - H302 Skin Sens. 1 - H317 Lact. - H362

**Environmental hazards** Aquatic Chronic 2 - H411

**Environmental** The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

#### 2.2. Label elements

##### Pictogram



**Signal word** Warning

**Hazard statements** H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H362 May cause harm to breast-fed children.  
H411 Toxic to aquatic life with long lasting effects.

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**Precautionary statements**

P273 Avoid release to the environment.  
 P280 Wear protective gloves.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.  
 P308+P313 IF exposed or concerned: Get medical advice/ attention.  
 P501 Dispose of contents/ container in accordance with national regulations.

**Contains** MANGANESE DIOXIDE, THIRAM, ALKANES, C14-17, CHLORO

### 2.3. Other hazards

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

##### 3.2. Mixtures

<b>MANGANESE DIOXIDE</b>	<b>30-60%</b>
CAS number: 1313-13-9	EC number: 215-202-6
<b>Classification</b>	
Acute Tox. 4 - H302	
Acute Tox. 4 - H332	
<b>OXYDIPROPYL DIBENZOATE</b>	<b>10-30%</b>
CAS number: 27138-31-4	EC number: 248-258-5
<b>Classification</b>	
Aquatic Chronic 3 - H412	
<b>THIRAM</b>	<b>1-5%</b>
CAS number: 137-26-8	EC number: 205-286-2
M factor (Acute) = 10	M factor (Chronic) = 10
<b>Classification</b>	
Acute Tox. 4 - H302	
Acute Tox. 4 - H332	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Skin Sens. 1 - H317	
STOT RE 2 - H373	
Aquatic Acute 1 - H400	
Aquatic Chronic 1 - H410	
<b>1,3-DIPHENYLGUANIDINE</b>	<b>&lt;1%</b>
CAS number: 102-06-7	EC number: 203-002-1
<b>Classification</b>	
Acute Tox. 4 - H302	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Repr. 2 - H361f	
STOT SE 3 - H335	
Aquatic Chronic 2 - H411	

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<b>ALKANES, C14-17, CHLORO</b>	<b>&lt;1%</b>
CAS number: 85535-85-9	EC number: 287-477-0
M factor (Acute) = 1	M factor (Chronic) = 1
<b>Classification</b>	
Lact. - H362	
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>	In all cases of doubt, or if symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Give plenty of water to drink. Give milk instead of water if readily available. Get medical attention.
<b>Skin contact</b>	Wipe off excess material with cloth or paper. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

<b>Inhalation</b>	No specific symptoms known. The product contains a powder which is hazardous by inhalation. This is not relevant to the current physical form of the product which is not in a respirable form.
<b>Ingestion</b>	May cause stomach pain or vomiting.
<b>Skin contact</b>	May cause skin sensitisation or allergic reactions in sensitive individuals.
<b>Eye contact</b>	May cause temporary eye irritation.

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

<b>Notes for the doctor</b>	No specific recommendations.
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### 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>	Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m <sup>3</sup> . Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Nitrous gases (NO <sub>x</sub> ). Manganese oxides. 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.

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### 5.3. Advice for firefighters

**Protective actions during firefighting** Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for firefighters** 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

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in 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 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. If involved in a fire, shut off flow if it can be done without risk. Avoid the spillage or runoff entering drains, sewers or watercourses. Wash thoroughly after dealing with a spillage.

### 6.4. Reference to other sections

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effects in the aquatic environment. See section 12. For waste disposal, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Avoid spilling. Avoid contact with skin and eyes. Good personal hygiene procedures should be implemented.

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

**Storage precautions** Store in tightly-closed, original container in a dry and cool place.

**Storage class** Miscellaneous hazardous material storage.

### 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

#### MANGANESE DIOXIDE (CAS: 1313-13-9)

**DNEL**

Workers - Inhalation; Long term systemic effects: 0.2 mg/m<sup>3</sup>  
 Workers - Dermal; Long term systemic effects: 0.00414 mg/kg/day  
 General population - Inhalation; Long term systemic effects: 0.043 mg/m<sup>3</sup>  
 General population - Dermal; Long term systemic effects: 0.0021 mg/kg/day

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<b>PNEC</b>	- Fresh water; 0.00014 mg/l
	- Marine water; 0.000014 mg/l
	- Intermittent release; 0.00074 mg/l
	- STP; 100 mg/l
	- Sediment (Freshwater); 0.037 mg/kg
	- Sediment (Marinewater); 0.0037 mg/kg
	- Soil; 0.028 mg/kg

### OXYDIPROPYL DIBENZOATE (CAS: 27138-31-4)

<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 8.8 mg/m <sup>3</sup>
	Workers - Inhalation; Short term systemic effects: 35.08 mg/m <sup>3</sup>
	Workers - Dermal; Long term systemic effects: 10 mg/kg/day
	Workers - Dermal; Short term systemic effects: 170 mg/kg/day
	General population - Inhalation; Long term systemic effects: 8.69 mg/m <sup>3</sup>
	General population - Inhalation; Short term systemic effects: 8.7 mg/l
	General population - Dermal; Long term systemic effects: 0.22 mg/kg/day
	General population - Dermal; Short term systemic effects: 80 mg/kg/day
	General population - Oral; Long term systemic effects: 5.0 mg/kg/day
General population - Oral; Short term systemic effects: 80 mg/kg/day	

<b>PNEC</b>	- Fresh water; 3.7 µg/l
	- Marine water; 0.37 µg/l
	- Intermittent release; 37 µg/l
	- STP; 10 mg/l
	- Sediment (Freshwater); 1.49 mg/kg
	- Sediment (Marinewater); 0.149 mg/kg
	- Soil; 1.0 mg/kg
- Oral (food); 333 mg/kg	

### ALKANES, C14-17, CHLORO (CAS: 85535-85-9)

<b>DNEL</b>	Workers - Inhalation; Long term systemic effects: 6.7 mg/m <sup>3</sup>
	Workers - Dermal; Long term systemic effects: 47.9 mg/kg/day
	General population - Inhalation; Long term systemic effects: 2 mg/m <sup>3</sup>
	General population - Dermal; Long term systemic effects: 28.75 mg/kg/day
General population - Oral; Long term systemic effects: 0.58 mg/kg/day	

<b>PNEC</b>	- Fresh water; 1 µg/l
	- Marine water; 0.2 µg/l
	- STP; 80 mg/l
	- Sediment (Freshwater); 13 mg/kg
	- Sediment (Marinewater); 2.6 mg/kg
	- Soil; 11.9 mg/kg

## 8.2. Exposure controls

### Protective equipment



### Eye/face protection

Not generally required.

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<b>Hand protection</b>	It is recommended that chemical-resistant, impervious gloves are worn. Wear protective gloves made of the following material: Nitrile rubber. 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>Hygiene measures</b>	When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet.
<b>Respiratory protection</b>	No specific recommendations.
<b>Environmental exposure controls</b>	Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

### SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Paste.
<b>Colour</b>	Dark brown.
<b>Odour</b>	Mild.
<b>Odour threshold</b>	Not applicable. Not applicable.
<b>pH</b>	Not determined.
<b>Melting point</b>	Not applicable.
<b>Initial boiling point and range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Evaporation factor</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	1.77 @ 20 @ °C
<b>Solubility(ies)</b>	Not determined. Insoluble in water.
<b>Partition coefficient</b>	log Pow: Thiram: 1.73
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not determined.
<b>Viscosity</b>	7000 - 9000 Ps @ 20 @ °C
<b>Explosive properties</b>	Not applicable.
<b>Oxidising properties</b>	Not determined.

#### 9.2. Other information

<b>Other information</b>	None.
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
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### 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 determined. 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 acids. Strong reducing 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** For this endpoint no toxicological data is available for the whole product.

#### Acute toxicity - oral

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

**ATE oral (mg/kg)** 1,782.25

#### Skin corrosion/irritation

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

#### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

#### Respiratory sensitisation

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

#### Skin sensitisation

**Skin sensitisation** Sensitising.

#### Germ cell mutagenicity

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

#### Carcinogenicity

**Carcinogenicity** Does not contain any substances known to be carcinogenic.

#### Reproductive toxicity

**Reproductive toxicity - fertility** Contains a substance which may cause harm to breast-fed children.

**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

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<b>Aspiration hazard</b>	Not applicable.
<b>Inhalation</b>	No significant hazard at normal ambient temperatures. Heating may generate the following products: Toxic gases or vapours.
<b>Ingestion</b>	Harmful if swallowed. May cause stomach pain or vomiting.
<b>Skin contact</b>	May cause skin sensitisation or allergic reactions in sensitive individuals.
<b>Eye contact</b>	May cause irritation to eyes.
<b>Acute and chronic health hazards</b>	Product contains: manganese dioxide: which is: poison by intravenous route: moderately toxic. by subcutaneous route.

### Toxicological information on ingredients.

#### MANGANESE DIOXIDE

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >3480 mg/kg, Oral, Rat REACH dossier information.

##### Skin corrosion/irritation

**Animal data** Not irritating.

##### Serious eye damage/irritation

**Serious eye damage/irritation** Not irritating.

##### Skin sensitisation

**Skin sensitisation** Not sensitising.

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Negative.

**Genotoxicity - in vivo** Negative.

#### OXYDIPROPYL DIBENZOATE

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 3295 - 5072 mg/kg, Oral, Rat

##### Acute toxicity - dermal

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

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC50 >200 mg/l/4hr/day, Inhalation, Rat

##### Skin corrosion/irritation

**Animal data** Oedema score: No oedema (0). Erythema/eschar score: No erythema (0). Not irritating.

##### Serious eye damage/irritation

**Serious eye damage/irritation** Not irritating.

##### Skin sensitisation

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

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### Germ cell mutagenicity

**Genotoxicity - in vitro** Negative.

### Reproductive toxicity

**Reproductive toxicity - development** Fetotoxicity: - NOAEL: 500 mg/kg, Oral, Rat

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** NOAEL 1000 mg/kg, Oral, Rat

## SECTION 12: Ecological Information

**Ecotoxicity** The product contains substances which are toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

### 12.1. Toxicity

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

### Ecological information on ingredients.

#### MANGANESE DIOXIDE

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: >100 %, Onchorhynchus mykiss (Rainbow trout)

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

**Acute toxicity - aquatic plants** EC<sub>50</sub>, : >100 %, Desmodemus subspicatus

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

#### OXYDIPROPYL DIBENZOATE

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 3.7 mg/l, Pimephales promelas (Fat-head Minnow)  
NOEC, 96 hours: 1.2 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EL50, 48 hours: 19.3 mg/l, Daphnia magna  
NOELR, 48 hours: 2.2 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 4.9 mg/l, Selenastrum capricornutum  
EC<sub>50</sub>, 96 hours: 3.6 mg/l, Selenastrum capricornutum

**Acute toxicity - microorganisms** EC<sub>50</sub>, 3 hours: >100 mg/l, Activated sludge  
NOEC, 3 hours: >= 100 mg/l, Activated sludge

### 12.2. Persistence and degradability

**Persistence and degradability** There are no data on the degradability of this product.

### Ecological information on ingredients.

#### OXYDIPROPYL DIBENZOATE

**Biodegradation** Water - Degradation 85%: 28 days  
The substance is readily biodegradable.

### 12.3. Bioaccumulative potential

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

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**Partition coefficient**                      log Pow: Thiram: 1.73

### Ecological information on ingredients.

#### OXYDIPROPYL DIBENZOATE

**Partition coefficient**                      log Kow: 3.9

#### 12.4. Mobility in soil

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

#### 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.

**Disposal methods**                              Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. May be mixed with base component to give an inert polymeric material.

**Waste class**                                      H5 - Harmful H13 - Sensitising H14 - Ecotoxic Recommended EWC Code 08 04 09\*

### **SECTION 14: Transport information**

#### 14.1. UN number

**UN No. (ADR/RID)**                              3077

**UN No. (IMDG)**                                      3077

**UN No. (ICAO)**                                      3077

#### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)**              ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE DIOXIDE)

**Proper shipping name (IMDG)**              ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE DIOXIDE)

**Proper shipping name (ICAO)**              ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE DIOXIDE)

**Proper shipping name (ADN)**              ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE DIOXIDE)

#### 14.3. Transport hazard class(es)

**ADR/RID class**                                      9

**IMDG class**    9

#### 14.4. Packing group

**ADR/RID packing group**                      III

**IMDG packing group**                              III

**ICAO packing group**                              III

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### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



### 14.6. Special precautions for user

Emergency Action Code        2Z

### 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

**EU legislation**                      Regulation (EC) 1907/2006 REACH (as amended).  
   Regulation (EC) 1272/2008 CLP (as amended).

**Guidance**                              Workplace Exposure Limits EH40.

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

<b>Revision comments</b>	General review
<b>Revision date</b>	02/06/2017
<b>Revision</b>	2
<b>Supersedes date</b>	16/05/2017
<b>SDS number</b>	10167
<b>Hazard statements in full</b>	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H361f Suspected of damaging fertility. H362 May cause harm to breast-fed children. H373 May cause damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful 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.