

# SAFETY DATA SHEET

**ARBO**

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  
**Product description** : Curing agent component of a two-part sealant.  
**Other means of identification** : Not available.

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

Identified uses	
Curing agent component of a two-part sealant.	
Uses advised against	Reason
For professional users only.	-

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

Adshead Ratcliffe & Co. Ltd.  
 Derby Road, Belper  
 Derbyshire.  
 DE56 1WJ  
 +44 (0)1773 826661

**e-mail address of person responsible for this SDS** : SDSQueries@carlisleccm.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : National Poisons Information Service (NPIS)  
 Tel: 0344 892 0111 (for healthcare professionals only)  
 Website: <http://www.npis.org/>  
 Members of Public in England, Scotland and Wales can contact NHS 111/NHS 24 by dialling 111. In Northern Ireland contact your local GP.

#### Supplier

**Telephone number** : +44 (0)1773 826661  
 (Office hours: 8.30 - 17.00)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to UK CLP/GHS

Acute Tox. 4, H302  
 Skin Irrit. 2, H315  
 Eye Irrit. 2, H319  
 Skin Sens. 1, H317  
 Lact., H362  
 STOT RE 2, H373  
 Aquatic Acute 1, H400  
 Aquatic Chronic 1, H410

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

## SECTION 2: Hazards identification

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** :

Warning

**Hazard statements** :

H302 - Harmful if swallowed.  
 H315 - Causes skin irritation.  
 H317 - May cause an allergic skin reaction.  
 H319 - Causes serious eye irritation.  
 H362 - May cause harm to breast-fed children.  
 H373 - May cause damage to organs (Brain) through prolonged or repeated exposure if inhaled.  
 H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** :

P201 - Obtain special instructions before use.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P273 - Avoid release to the environment.  
 P263 - Avoid contact during pregnancy and while nursing.

**Response** :

P308 + P313 - IF exposed or concerned: Get medical advice/attention.  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.

**Storage** :

Not applicable.

**Disposal** :

Not applicable.

**Supplemental label elements** :

Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** :

Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** :

Not applicable.

**Tactile warning of danger** :

Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** :

This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.

**Other hazards which do not result in classification** :

None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Classification	Type
manganese dioxide	REACH #: 01-2119452801-43 EC: 215-202-6 CAS: 1313-13-9 Index: 025-001-00-3	≥50 - ≤75	Acute Tox. 4, H302 Acute Tox. 4, H332 STOT RE 2, H373 (brain) (inhalation)	[1] [2]
oxydipropyl dibenzoate	REACH #: 01-2119529241-49 EC: 248-258-5	≥25 - ≤50	Aquatic Chronic 3, H412	[1]

### SECTION 3: Composition/information on ingredients

calcium carbonate	CAS: 27138-31-4 EC: 207-439-9	≥25 - ≤50	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
silicon dioxide	CAS: 471-34-1 REACH #: 01-2119379499-16 EC: 231-545-4	≤3	Not classified.	[2]
thiram	CAS: 7631-86-9 REACH #: 01-2119492301-45 EC: 205-286-2 CAS: 137-26-8 Index: 006-005-00-4	≤3	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 (M=10) Aquatic Chronic 1, H410 (M=10)	[1]
alkanes, C14-17, chloro	REACH #: 01-2119519269-33 EC: 287-477-0 CAS: 85535-85-9 Index: 602-095-00-X	≤1	Lact., H362 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=10) EUH066	[1] [3] [4]
1,3-diphenylguanidine	REACH #: 01-2119519144-47 EC: 203-002-1 CAS: 102-06-7 Index: 612-149-00-4	<1	Acute Tox. 3, H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361f STOT SE 3, H335 Aquatic Chronic 2, H411 <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT
- [4] Substance meets the criteria for vPvB

Occupational exposure limits, if available, are listed in Section 8.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**Eye contact**

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation**

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## SECTION 4: First aid measures

- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : The product contains a powder which is hazardous by inhalation. May cause damage to organs (Brain) through prolonged or repeated exposure if inhaled.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : May cause harm to breast-fed children.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.
- Unsuitable extinguishing media** : Do not use water jet.

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

- Hazards from the substance or mixture** : This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
sulfur oxides  
metal oxide/oxides

### 5.3 Advice for firefighters

## SECTION 5: Firefighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

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

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

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

- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy or while nursing. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

## SECTION 7: Handling and storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Seveso Directive - Reporting thresholds

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E1	100 tonne	200 tonne

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
manganese dioxide	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [manganese and its inorganic compounds inhalable fraction/respirable fraction, as Mn]</b> TWA: 0.2 mg/m <sup>3</sup> , (as Mn) 8 hours. Form: Inhalable fraction TWA: 0.05 mg/m <sup>3</sup> , (as Mn) 8 hours. Form: Respirable fraction
silicon dioxide	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, amorphous inhalable dust/respirable dust]</b> TWA: 2.4 mg/m <sup>3</sup> 8 hours. Form: respirable dust TWA: 6 mg/m <sup>3</sup> 8 hours. Form: inhalable dust

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
manganese dioxide	DNEL	Long term Dermal	0.0021 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.00414 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.043 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	0.2 mg/m <sup>3</sup>	Workers	Systemic
oxydipropyl dibenzoate	DNEL	Long term Dermal	2.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	8.69 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	8.7 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	8.8 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	10 mg/kg	Workers	Systemic

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

calcium carbonate	DNEL	Short term Inhalation	bw/day 35.08 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Oral	80 mg/kg	General population	Systemic
	DNEL	Short term Dermal	bw/day 80 mg/kg	General population	Systemic
	DNEL	Short term Dermal	bw/day 170 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	bw/day 1.06 mg/m <sup>3</sup>	General population	Local
	DNEL	Short term Oral	6.1 mg/kg	General population	Systemic
	DNEL	Long term Oral	6.1 mg/kg	General population	Systemic
thiram	DNEL	Long term Inhalation	bw/day 6.36 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	0.235 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	1.667 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	42 µg/m <sup>3</sup>	General population	Systemic
alkanes, C14-17, chloro	DNEL	Long term Dermal	833 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	12 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.58 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	6.7 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	28.75 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	47.9 mg/kg bw/day	Workers	Systemic
1,3-diphenylguanidine	DNEL	Long term Oral	0.017 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.06 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	0.17 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.33 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	0.47 mg/kg bw/day	Workers	Systemic

**PNECs**

Product/ingredient name	Compartment Detail	Value	Method Detail
manganese dioxide	Sewage Treatment Plant	100 mg/l	-
	Fresh water sediment	0.037 mg/kg dwt	-
	Marine water sediment	0.004 mg/kg dwt	-
	Soil	0.028 mg/kg dwt	-
oxydipropyl dibenzoate	Fresh water	0.02 mg/l	-
	Fresh water	0.04 mg/l	-
	Marine water	0.002 mg/l	-
	Marine water	0.01 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	8.03 mg/kg dwt	-
	Marine water sediment	0.803 mg/kg dwt	-



## SECTION 8: Exposure controls/personal protection

thiram	Soil	1 mg/kg	-
	Secondary Poisoning	333 mg/kg	-
	Fresh water	0.46 µg/l	-
	Fresh water	0.46 µg/l	-
	Marine water	0.046 µg/l	-
	Marine water	0.46 µg/l	-
	Sewage Treatment Plant	0.06 mg/l	-
	Fresh water sediment	0.105 mg/kg dwt	-
	Marine water sediment	0.011 mg/kg dwt	-
	Soil	0.147 mg/kg dwt	-
alkanes, C14-17, chloro	Secondary Poisoning	16.67 mg/kg dwt	-
	Fresh water	1 µg/l	-
	Marine water	0.2 µg/l	-
	Sewage Treatment Plant	80 mg/l	-
	Fresh water sediment	13 mg/kg dwt	-
	Marine water sediment	2.6 mg/kg dwt	-
	Soil	11.9 mg/kg dwt	-
	Secondary Poisoning	10 mg/kg	-
	Fresh water	30 µg/l	-
	Fresh water	14 µg/l	-
1,3-diphenylguanidine	Marine water	3 µg/l	-
	Sewage Treatment Plant	1.47 mg/l	-
	Fresh water sediment	2.51 mg/kg dwt	-
	Marine water sediment	0.251 mg/kg dwt	-
	Soil	0.404 mg/kg dwt	-

### 8.2 Exposure controls

#### Appropriate engineering controls

- : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Individual protection measures

##### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

##### Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

##### Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Other skin protection

- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.



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

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Solid. [Paste.]
- Colour** : Dark Brown.
- Odour** : Mild.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not applicable.
- Flash point** : Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- pH** : Not available.
- Viscosity** : Dynamic: 7000000 to 9000000 mPa·s
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not applicable.
- Vapour pressure** : Not available.
- Relative density** : 1.77
- Vapour density** : Not applicable.
- Explosive properties** : Not available.
- Oxidising properties** : Not available.
- Particle characteristics**
- Median particle size** : Not available.

**SECTION 10: Stability and reactivity**

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : heat
- 10.5 Incompatible materials** : Strong acids  
Strong oxidising materials

**SECTION 10: Stability and reactivity**

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Decomposition products may include the following materials:  
Toxic gases  
carbon oxides (CO, CO<sub>2</sub>)  
nitrogen oxides

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
manganese dioxide	LD50 Oral	Rat	3478 mg/kg	-
oxydipropyl dibenzoate	LD50 Oral	Rat	3295 mg/kg	-
calcium carbonate	LD50 Oral	Rat	6450 mg/kg	-
thiram	LC50 Inhalation Dusts and mists	Rat	4420 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	560 mg/kg	-
1,3-diphenylguanidine	LD50 Oral	Rat	323 mg/kg	-

**Conclusion/Summary** : Acute Tox. 4 oral

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
ARBOKOL® 2150 Curing Agent	984.0	N/A	N/A	23.3	298.1
manganese dioxide	500	N/A	N/A	11	N/A
oxydipropyl dibenzoate	3295	N/A	N/A	N/A	N/A
calcium carbonate	6450	N/A	N/A	N/A	N/A
thiram	560	N/A	N/A	N/A	4.42
1,3-diphenylguanidine	100	N/A	N/A	N/A	N/A

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
calcium carbonate	Eyes - Severe irritant	Rabbit	-	24 hours 750 ug	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
silicon dioxide	Eyes - Mild irritant	Rabbit	-	24 hours 25 mg	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
thiram	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Rabbit	-	100 %	-

**Conclusion/Summary**

**Skin** : Skin Irrit. 2

**Eyes** : Eye Irrit. 2

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

**Sensitisation****Conclusion/Summary**

**Skin** : Skin Sens. 1

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

**Mutagenicity****Conclusion/Summary**

: Based on available data, the classification criteria are not met.

**Carcinogenicity****Conclusion/Summary**

: Based on available data, the classification criteria are not met.

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## SECTION 11: Toxicological information

### Reproductive toxicity

**Conclusion/Summary** : Lact.

### Teratogenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
1,3-diphenylguanidine	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
manganese dioxide	Category 2	inhalation	brain
thiram	Category 2	-	-

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : Harmful if swallowed.

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

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

**Inhalation** : The product contains a powder which is hazardous by inhalation. May cause damage to organs (Brain) through prolonged or repeated exposure if inhaled.

**Skin contact** : Adverse symptoms may include the following:  
 irritation  
 redness

**Ingestion** : Adverse symptoms may include the following:  
 nausea or vomiting

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Causes skin irritation.  
 Causes serious eye irritation.  
 May cause skin sensitisation.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**Conclusion/Summary** : Not available.

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**SECTION 11: Toxicological information**

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : May cause harm to breast-fed children.

**Other information** : Not available.

**SECTION 12: Ecological information****12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
oxydipropyl dibenzoate	Acute EC50 4.9 mg/l Fresh water	Algae - <i>Raphidocelis subcapitata</i>	72 hours
	Acute EC50 19.3 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 3.7 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 2.2 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
calcium carbonate	Acute LC50 >56000 ppm Fresh water	Fish - Western mosquitofish - <i>Gambusia affinis</i> - Adult	96 hours
	Chronic NOEC 16.5 mg/l Fresh water	Fish - Catfish - <i>Rhamdia quelen</i>	30 days
silicon dioxide	Acute EC50 2.2 g/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i> - Neonate	48 hours
	Chronic NOEC 12.5 mg/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i> - Neonate	21 days
thiram	Acute EC50 1000 µg/l Fresh water	Algae - Green algae - <i>Chlorella pyrenoidosa</i>	96 hours
	Acute EC50 0.04 mg/l Marine water	Algae - Yellow green algae - <i>Nannochloropsis oculata</i>	72 hours
	Acute LC50 0.02 mg/l Marine water	Crustaceans - San Francisco Brine Shrimp - <i>Artemia franciscana</i> - Nauplii	48 hours
	Acute LC50 0.01 mg/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 0.007 mg/l Fresh water	Fish - Harlequinfish, red rasbora - <i>Rasbora heteromorpha</i>	96 hours
	Chronic NOEC 1.1 ppb Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	210 days
alkanes, C14-17, chloro	Acute EC50 0.0059 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Chronic NOEC 0.0087 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days

**Conclusion/Summary** : Aquatic Acute 1  
Aquatic Chronic 1

**12.2 Persistence and degradability**

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
oxydipropyl dibenzoate	-	-	Readily
alkanes, C14-17, chloro	-	-	Not readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
thiram	1.8	3.39	Low
alkanes, C14-17, chloro	4.7 to 8.3	10500 to 14600	High
1,3-diphenylguanidine	2.42	<20	Low

**12.4 Mobility in soil**

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## SECTION 12: Ecological information

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : insoluble in water.

### 12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
oxydipropyl dibenzoate	No	N/A	N/A	No	N/A	N/A	N/A
thiram	No	N/A	No	Yes	No	N/A	No
alkanes, C14-17, chloro	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1,3-diphenylguanidine	No	N/A	No	Yes	No	N/A	No

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

#### Waste catalogue









Waste code	Waste designation
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	UN3077	UN3077	UN3077	UN3077
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiram)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiram)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiram)	Environmentally hazardous substance, solid, n.o.s. (thiram)
<b>14.3 Transport hazard class(es)</b>	9  	9  	9  	9  
<b>14.4 Packing group</b>	III	III	III	III

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## SECTION 14: Transport information

<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes.	Yes.
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### Additional information

- ADR/RID** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Hazard identification number** 90  
**Limited quantity** 5 kg  
**Special provisions** 274, 335, 601, 375  
**Tunnel code** (-)
- ADN** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Special provisions** 274, 335, 375, 601
- IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Emergency schedules** F-A, S-F  
**Special provisions** 274, 335, 966, 967, 969
- IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.  
**Quantity limitation** Passenger and Cargo Aircraft: 400 kg. Packaging instructions: 956. Cargo Aircraft Only: 400 kg. Packaging instructions: 956. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y956.  
**Special provisions** A97, A158, A179, A197, A215

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

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

#### UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Not listed.

##### Prior Informed Consent (PIC)

Part	Ingredient name	Status
Part 1	thiram	Listed
Part 2	thiram	Listed

##### Persistent Organic Pollutants

Not listed.



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## SECTION 15: Regulatory information

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

No listed substance

### Seveso Directive

This product is controlled under the Seveso Directive.

### Danger criteria

Category
E1

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : All components are listed or exempted.
- Eurasian Economic Union** : **Russian Federation inventory**: All components are listed or exempted.
- Japan** : **Japan inventory (CSCL)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.
- Republic of Korea** : All components are listed or exempted.
- Taiwan** : All components are listed or exempted.
- Thailand** : All components are listed or exempted.
- Turkey** : All components are listed or exempted.
- United States** : All components are listed or exempted.
- Viet Nam** : All components are listed or exempted.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

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## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :

- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification

Classification	Justification
Acute Tox. 4, H302	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Lact., H362	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

### Full text of abbreviated H statements

H301	Toxic if swallowed.
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.
EUH066	Repeated exposure may cause skin dryness or cracking.

### Full text of classifications

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Lact.	REPRODUCTIVE TOXICITY - Effects on or via lactation
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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## SECTION 16: Other information

**Version** : 1

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.