SAFETY DATA SHEET

ARBOKOL® AG2 CURING AGENT

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

1.1 Product identifier

Product name : ARBOKOL® AG2 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
Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Lact., H362
STOT RE 2, H373
Aquatic Acute 1, H400
Aquatic Chronic 2, H411

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 + H332 - Harmful if swallowed or if inhaled.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H362 - May cause harm to breast-fed children.
H373 - May cause damage to organs (Brian) 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.
P260 - Do not breathe vapour.
P263 - Avoid contact during pregnancy and while nursing.

Response : P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Contains thiram. May produce an allergic reaction.

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	>45 - <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 CAS: 27138-31-4	≥25 - ≤50	Aquatic Chronic 3, H412	[1]

SECTION 3: Composition/information on ingredients

calcium carbonate	EC: 207-439-9 CAS: 471-34-1	≥25 - ≤50	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
silicon dioxide	REACH #: 01-2119379499-16 EC: 231-545-4 CAS: 7631-86-9	≤3	Not classified.	[2]
thiram	REACH #: 01-2119492301-45 EC: 205-286-2 CAS: 137-26-8 Index: 006-005-00-4	<1	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	≤0.9	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 **See Section 16 for the full text of the H statements declared above.**	[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 it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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 : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

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. This material is 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
metal oxide/oxides
Toxic gases

5.3 Advice for firefighters

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.

SECTION 5: Firefighting measures

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). Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy or while nursing. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [manganese and its inorganic compounds inhalable fraction/respirable fraction, as Mn]** TWA: 0.2 mg/m³, (as Mn) 8 hours. Form: Inhalable fraction TWA: 0.05 mg/m³, (as Mn) 8 hours. Form: Respirable fraction
silicon dioxide	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, amorphous inhalable dust/respirable dust]** TWA: 2.4 mg/m³ 8 hours. Form: respirable dust TWA: 6 mg/m³ 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/m³	General population	Systemic
	DNEL	Long term Inhalation	0.2 mg/m³	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/m³	General population	Systemic
	DNEL	Short term Inhalation	8.7 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	8.8 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	10 mg/kg	Workers	Systemic

SECTION 8: Exposure controls/personal protection

			bw/day		
	DNEL	Short term Inhalation	35.08 mg/m³	Workers	Systemic
	DNEL	Short term Oral	80 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	80 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	170 mg/kg bw/day	Workers	Systemic
calcium carbonate	DNEL	Long term Inhalation	1.06 mg/m³	General population	Local
	DNEL	Short term Oral	6.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	6.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	6.36 mg/m³	Workers	Local
thiram	DNEL	Long term Inhalation	0.235 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	1.667 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	42 µg/m³	General population	Systemic
	DNEL	Long term Dermal	833 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	12 µg/kg bw/day	General population	Systemic
alkanes, C14-17, chloro	DNEL	Long term Oral	0.58 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	6.7 mg/m³	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/m³	General population	Systemic
	DNEL	Long term Dermal	0.17 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.33 mg/m³	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

	Soil	1 mg/kg	-
	Secondary Poisoning	333 mg/kg	-
thiram	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	-
	Secondary Poisoning	16.67 mg/kg dwt	-
alkanes, C14-17, chloro	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	-
1,3-diphenylguanidine	Fresh water	30 µg/l	-
	Fresh water	14 µg/l	-
	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 : Use only with adequate ventilation. 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. 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.

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/m³	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 Tox. 4 Inhalation

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® AG2 CURING AGENT	966.6	N/A	N/A	N/A	3.0
manganese dioxide	500	N/A	N/A	N/A	1.5
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	-
thiram	Eyes - Mild irritant	Rabbit	-	100 mg	-
	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 : Based on available data, the classification criteria are not met.

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.

Reproductive toxicity

Conclusion/Summary : Lact. May cause harm to breast-fed children.

SECTION 11: Toxicological information

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 thiram	Category 2 Category 2	inhalation -	brain -

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 : Harmful if inhaled.

Skin contact : Causes skin irritation.

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 : Irritating to eyes and skin.

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.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

SECTION 11: Toxicological information

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

Conclusion/Summary : Aquatic Acute 1
Aquatic Chronic 2

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	$LogP_{ow}$	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

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : insoluble in water.

12.5 Results of PBT and vPvB assessment

SECTION 12: Ecological information

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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3077	UN3077	UN3077	UN3077
14.2 UN proper shipping name	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)
14.3 Transport hazard class(es)	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.

Additional information

SECTION 14: Transport 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)

Not listed.

Persistent Organic Pollutants

Not listed.

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

SECTION 15: Regulatory information

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.

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

SECTION 16: Other information

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
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Lact., H362	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 2, H411	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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Version : 1

Notice to reader

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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.