

SAFETY DATA SHEET

ARBO

ARBOKOL® 1025 SP Curing Agent - Grey

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

1.1 Product identifier

Product name : ARBOKOL® 1025 SP Curing Agent - Grey
Product description : Curing agent component of: Two-component, epoxy-based adhesive.
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: Two-component, epoxy-based adhesive.	
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

Skin Irrit. 2, H315
 Eye Irrit. 2, H319
 Skin Sens. 1, H317
 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.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :



Signal word :

Warning

Hazard statements :

H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention :

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P273 - Avoid release to the environment.
 P261 - Avoid breathing vapour.
 P264 - Wash contaminated skin thoroughly after handling.

Response :

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.
 P337 + P313 - If eye irritation persists: Get medical advice/attention.

Storage :

Not applicable.

Disposal :

Not applicable.

Supplemental label elements :

Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

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
barium sulfate	EC: 231-784-4 CAS: 7727-43-7	≥25 - ≤50	Not classified.	[2]
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane)and 2-({2-[4-(oxiran-	REACH #: 01-2119454392-40 CAS: 9003-36-5	≥10 - ≤25	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]

SECTION 3: Composition/information on ingredients

2-yl(methoxy)benzyl]phenoxy)methyl)oxirane Terphenyl, hydrogenated	REACH #: 01-2119488183-33 EC: 262-967-7 CAS: 61788-32-7	≤10	Aquatic Chronic 2, H411	[1] [2] [3]
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7 Index: 022-006-00-2	≤5	Not classified.	[2]
Quartz	EC: 238-878-4 CAS: 14808-60-7	≤0.3	STOT RE 1, H372	[1] [2]
carbon black, non respirable	EC: 215-609-9 CAS: 1333-86-4	≤0.1	Not classified.	[2]
			See Section 16 for the full text of the H statements declared above.	

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 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 if adverse health effects persist or are severe. 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** : 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 adverse health effects persist or are severe. 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

SECTION 4: First aid measures

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
- Ingestion** : No specific data.

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** : Use an extinguishing agent suitable for the surrounding fire.
- 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 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
 sulfur oxides
 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.
- 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.

SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. 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. 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

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
E2	200 tonne	500 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
barium sulfate	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 4 mg/m ³ 8 hours. Form: respirable dust
Terphenyl, hydrogenated	TWA: 10 mg/m ³ 8 hours. Form: inhalable dust EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 48 mg/m ³ 15 minutes. STEL: 5 ppm 15 minutes. TWA: 19 mg/m ³ 8 hours. TWA: 2 ppm 8 hours.
titanium dioxide	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 4 mg/m ³ 8 hours. Form: respirable TWA: 10 mg/m ³ 8 hours. Form: total inhalable
Quartz	EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, respirable crystalline respirable fraction] TWA: 0.1 mg/m ³ 8 hours. Form: Respirable fraction
carbon black, non respirable	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 7 mg/m ³ 15 minutes. TWA: 3.5 mg/m ³ 8 hours.

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
barium sulfate	DNEL	Long term Inhalation	10 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	10 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	10 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	13000 mg/kg bw/day	General population	Systemic
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	DNEL	Long term Dermal	89.3 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.75 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.87 mg/m ³	General population	Systemic
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane)and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane	DNEL	Long term Inhalation	4.93 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	29.39 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	104.15 mg/kg bw/day	Workers	Systemic
	DMEL	Short term Dermal	8.3 µg/cm ²	Workers	Local
	DNEL	Long term Inhalation	8.7 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	62.5 mg/	General	Systemic

SECTION 8: Exposure controls/personal protection

Terphenyl, hydrogenated	DNEL	Long term Oral	kg bw/day 6.25 mg/ kg bw/day	population General population	Systemic
	DNEL	Long term Oral	74 µg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.222 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.358 mg/ m ³	General population	Systemic
	DNEL	Long term Dermal	0.622 mg/ kg bw/day	Workers	Systemic
carbon black, non respirable	DNEL	Long term Inhalation	2.01 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	0.06 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	1 mg/m ³	Workers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail	
barium sulfate	Fresh water	115 µg/l	-	
	Sewage Treatment Plant	62.2 mg/l	-	
	Fresh water sediment	600.4 mg/kg dwt	-	
	Soil	207.7 mg/kg dwt	-	
2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)]bisoxirane	Fresh water	0.006 mg/l	-	
	Fresh water	0.018 mg/l	-	
	Marine water	0.001 mg/l	-	
	Marine water	0.002 mg/l	-	
	Sewage Treatment Plant	10 mg/l	-	
	Fresh water sediment	0.341 mg/kg	-	
	Marine water sediment	0.034 mg/kg	-	
	Soil	0.065 mg/kg	-	
	Secondary Poisoning	11 mg/kg	-	
	Fresh water	0.003 mg/l	-	
Reaction mass of 2,2'-[methylenebis (2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis (4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy}methyl)oxirane	Fresh water	0.025 mg/l	-	
	Marine water	0.0003 mg/l	-	
	Sewage Treatment Plant	10 mg/l	-	
	Fresh water sediment	0.294 mg/kg	-	
	Marine water sediment	0.0294 mg/kg	-	
	Soil	0.237 mg/kg	-	
	Terphenyl, hydrogenated	Fresh water	2 µg/l	-
		Fresh water	13.4 µg/l	-
		Marine water	0.2 µg/l	-
		Sewage Treatment Plant	10.3 mg/l	-
Fresh water sediment		63.2 mg/kg	-	
Marine water sediment		6.32 mg/kg	-	
Soil		12.6 mg/kg	-	
Secondary Poisoning		2.22 mg/kg	-	

8.2 Exposure controls

Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

SECTION 8: Exposure controls/personal protection

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.
- 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** : Grey.
- Odour** : Slight
- 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: 1200000 to 1800000 mPa·s
- Solubility in water** : Not available.

SECTION 9: Physical and chemical properties

Partition coefficient: n-octanol/ water : Not applicable.

Vapour pressure : Not available.

Relative density : 1.34

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 alkalis
Strong oxidising materials

10.6 Hazardous decomposition products : Decomposition products may include the following materials:
carbon oxides
Toxic gases

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

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	LD50 Dermal	Rabbit	20 g/kg	-
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	LD50 Dermal	Rat	>2000 mg/kg	-
Terphenyl, hydrogenated	LD50 Oral	Rat	>5000 mg/kg	-
carbon black, non respirable	LD50 Oral	Rat	17500 mg/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

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

Acute toxicity estimates

SECTION 11: Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	N/A	20000	N/A	N/A	N/A
Terphenyl, hydrogenated	17500	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
titanium dioxide	Skin - Mild irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Human	-	72 hours 300 ug l	-

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

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

Conclusion/Summary

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

Reproductive toxicity**Conclusion/Summary**

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

Teratogenicity**Conclusion/Summary**

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

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Quartz	Category 1	-	-

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 : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.

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

Potential immediate effects	: May cause skin sensitisation. Causes skin irritation. Causes serious eye irritation.
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Potential delayed effects	: Not available.
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Long term exposure

Potential immediate effects	: Not available.
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Potential delayed effects	: Not available.
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Potential chronic health effects

Not available.

Conclusion/Summary	: Not available.
General	: 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	: No known significant effects or critical hazards.

Other information : Not available.**SECTION 12: Ecological information****12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
barium sulfate	Acute EC50 634 mg/l Fresh water	Crustaceans - Ostracod - <i>Cypris subglobosa</i>	48 hours
	Acute EC50 32 mg/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	48 hours
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Acute EC50 >11 mg/l Fresh water	Algae - <i>Scenedesmus capricornutum</i>	72 hours
	Acute EC50 1.8 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 1.5 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Chronic NOEC 4.2 mg/l Fresh water	Algae - <i>Scenedesmus capricornutum</i>	72 hours
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane)and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	Chronic NOEC 0.3 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Acute EC50 >1.8 mg/l Fresh water	Algae - <i>Raphidocelis subcapitata</i>	72 hours
	Acute EC50 2.55 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

SECTION 12: Ecological information

Terphenyl, hydrogenated	Acute LC50 2.54 mg/l Fresh water Chronic NOEC 0.3 mg/l Fresh water Acute EC50 >1.34 mg/l	Fish Daphnia - <i>Daphnia magna</i> Daphnia - <i>Daphnia magna</i>	96 hours 21 days 48 hours
titanium dioxide	Acute LC50 >1000 mg/l Fresh water Acute LC50 3 mg/l Fresh water	Fish Crustaceans - Water flea - <i>Ceriodaphnia dubia</i> - Neonate	96 hours 48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Water flea - <i>Daphnia pulex</i> - Neonate	48 hours
carbon black, non respirable	Acute LC50 >1000000 µg/l Marine water Acute EC50 37.563 mg/l Fresh water	Fish - Mummichog - <i>Fundulus heteroclitus</i> Daphnia - Water flea - <i>Daphnia magna</i> - Neonate	96 hours 48 hours

Conclusion/Summary : Aquatic Chronic 2

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	-	-	Not readily
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	-	-	Not readily
Terphenyl, hydrogenated	Marine water 67 days, 20°C	-	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Terphenyl, hydrogenated	-	5200	High

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	No	N/A	N/A	No	N/A	N/A	N/A
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	No	N/A	N/A	No	N/A	N/A	N/A
Terphenyl, hydrogenated	No	Yes	Yes	No	SVHC (Candidate)	Specified	Specified

SECTION 12: Ecological information

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
14.1 UN number	UN3077	UN3077	UN3077	UN3077
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane, Bisphenol F diglycidyl ether, reaction mass of isomers)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane, Bisphenol F diglycidyl ether, reaction mass of isomers)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane, Bisphenol F diglycidyl ether, reaction mass of isomers)	Environmentally hazardous substance, solid, n.o.s. (bis-[4-(2,3-epoxipropoxy)phenyl]propane, Bisphenol F diglycidyl ether, reaction mass of isomers)
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

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
vPvB	terphenyl, hydrogenated	Candidate	-	6/27/2018

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.

SECTION 15: Regulatory information

Danger criteria

Category

E2

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
Quartz (SiO ₂)	UK Occupational Exposure Limits EH40 - WEL	silica, respirable crystalline respirable fraction	Carc.	-

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 : Not determined.
Canada : Not determined.
China : Not determined.
Eurasian Economic Union : **Russian Federation inventory**: Not determined.
Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

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
- 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
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Full text of classifications

Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1

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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.