# SAFETY DATA SHEET

ARBOKOL® 1000

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

### 1.1 Product identifier

**Product name** : ARBOKOL® 1000

**Product description** : Sealants

**Other means of identification** : Not available.

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

| Identified uses |
|---|
| Sealants |

| Uses advised against |
|---|
| For professional use 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 Center**

**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 Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 3, H412

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** : Danger

**Hazard statements** : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H412 - Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapor.
P264 - Wash hands thoroughly after handling.

**Response** : P362 + P364 - Take off contaminated clothing and wash it before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

**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 |
|---|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis [2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | CAS: 68611-50-7 | ≥25 - ≤50 | Aquatic Chronic 3, H412 | [1] |
| titanium dioxide | REACH #: 01-2119489379-17<br>EC: 236-675-5<br>CAS: 13463-67-7<br>Index: 022-006-00-2 | ≤10 | Carc. 2, H351 (inhalation) | [1] [2] [*] |
| Reaction Mass of Benzyl (1R,1S) | REACH #: | ≤5 | Not classified. | [2] |

## SECTION 3: Composition/information on ingredients

| | | | | |
|---|---|---|---|---|
| 2,2,4-trimethyl-1-[(2-methylpropanoyl)oxy]pentan-3-yl benzene-1,2-dicarboxylate and Benzyl (3R,3S) 2,2,4-trimethyl-3-[(2-methylpropanoyl)oxy]pentyl benzene-1,2-dicarboxylate | 01-2119519236-42 | | | |
| Reaction mass of calcium carbonate and calcium dihydroxide and calcium peroxide | REACH #: 01-2119974579-15 | ≤5 | Ox. Sol. 1, H271<br>Eye Dam. 1, H318<br>STOT SE 3, H335 | [1] |
| barium oxide, obtained by calcining witherite | REACH #: 01-2120078585-44<br>EC: 215-127-9<br>CAS: 1304-28-5 | ≤3 | Ox. Sol. 1, H271<br>Acute Tox. 3, H301<br>Skin Corr. 1A, H314<br>Eye Dam. 1, H318 | [1] [2] |
| Phenol, 4,4'-(1-methylethylidene) bis-, polymer with 2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)]bis [oxirane] | CAS: 25036-25-3 | ≤3 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317 | [1] |
| Terphenyl, hydrogenated | REACH #: 01-2119488183-33<br>EC: 262-967-7<br>CAS: 61788-32-7 | <1 | Aquatic Chronic 2, H411 | [1] [2] [3] |
| xylene | REACH #: 01-2119488216-32<br>EC: 215-535-7<br>CAS: 1330-20-7<br>Index: 601-022-00-9 | <1 | Flam. Liq. 3, H226<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>STOT RE 2, H373<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412 | [1] [2] |
| 2-mercaptoethanol | REACH #: 01-2119517582-41<br>EC: 200-464-6<br>CAS: 60-24-2 | ≤0.25 | Acute Tox. 3, H301<br>Acute Tox. 2, H310<br>Acute Tox. 3, H331<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1A, H317<br>Repr. 2, H361f<br>STOT RE 2, H373<br>Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 2, H411 | [1] |
| ethylbenzene | REACH #: 01-2119489370-35<br>EC: 202-849-4<br>CAS: 100-41-4<br>Index: 601-023-00-4 | ≤0.3 | Flam. Liq. 2, H225<br>Acute Tox. 4, H332<br>STOT RE 2, H373 (hearing organs)<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412 | [1] [2] |
| silicon dioxide | REACH #: 01-2119379499-16<br>EC: 231-545-4<br>CAS: 7631-86-9 | ≤0.1 | Not classified. | [2] |
| crystalline silica, respirable powder | EC: 238-878-4<br>CAS: 14808-60-7 | ≤0.1 | Not classified.<br><br>**See Section 16 for the full text of the H statements declared above.** | [2] |

## SECTION 3: Composition/information on ingredients

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
[*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix.

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

**Inhalation** : Get medical attention immediately. Call a poison center or physician. 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. 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** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a 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. 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
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

**Ingestion** : Adverse symptoms may include the following:
stomach pains

## SECTION 4: First aid measures

### 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 harmful 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
halogenated compounds
metal oxide/oxides
hydrogen sulphide
sulfur oxides ($SO_2$, $SO_3$ etc.)
Formaldehyde.

### 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 spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized 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 spilled 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.

### 6.3 Methods and materials 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.

## SECTION 6: Accidental release measures

**Large spill** : Move containers from spill area. Approach 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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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. Store locked up. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 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 |
|---|---|
| titanium dioxide | **EH40/2005 WELs (United Kingdom (UK), 1/2020).**<br>TWA: 4 mg/m³ 8 hours. Form: respirable<br>TWA: 10 mg/m³ 8 hours. Form: total inhalable |
| Reaction Mass of Benzyl (1R,1S) 2,2,4-trimethyl-1-[(2-methylpropanoyl)oxy] pentan-3-yl benzene-1,2-dicarboxylate and Benzyl (3R,3S) 2,2,4-trimethyl-3-[ (2-methylpropanoyl)oxy]pentyl benzene-1,2-dicarboxylate | **EH40/2005 WELs (United Kingdom (UK), 1/2020).**<br>TWA: 5 mg/m³ 8 hours. |
| barium oxide, obtained by calcining witherite | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [barium compounds, soluble as Ba]**<br>TWA: 0.5 mg/m³, (as Ba) 8 hours. |
| Terphenyl, hydrogenated | **EH40/2005 WELs (United Kingdom (UK), 1/2020).** |

## SECTION 8: Exposure controls/personal protection

| | |
|---|---|
| | STEL: 48 mg/m³ 15 minutes.<br>STEL: 5 ppm 15 minutes.<br>TWA: 19 mg/m³ 8 hours.<br>TWA: 2 ppm 8 hours. |
| xylene | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-, p- or mixed isomers] Absorbed through skin.**<br>STEL: 441 mg/m³ 15 minutes.<br>TWA: 50 ppm 8 hours.<br>TWA: 220 mg/m³ 8 hours.<br>STEL: 100 ppm 15 minutes. |
| ethylbenzene | **EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.**<br>STEL: 552 mg/m³ 15 minutes.<br>STEL: 125 ppm 15 minutes.<br>TWA: 100 ppm 8 hours.<br>TWA: 441 mg/m³ 8 hours. |
| silicon dioxide | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, amorphous inhalable dust/respirable dust]**<br>TWA: 2.4 mg/m³ 8 hours. Form: Respirable dust<br>TWA: 6 mg/m³ 8 hours. Form: inhalable dust |
| crystalline silica, respirable powder | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, respirable crystalline respirable fraction]**<br>TWA: 0.1 mg/m³ 8 hours. Form: Respirable fraction |

**Biological exposure indices**

| Product/ingredient name | Exposure indices |
|---|---|
| xylene | **EH40/2005 BMGVs (United Kingdom (UK), 8/2018) [Xylene, o-, m-, p- or mixed isomers]**<br>BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift. |

**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 oxide, obtained by calcining witherite | DNEL | Long term Inhalation | 0.5 mg/m³ | Workers | Systemic |
| Terphenyl, hydrogenated | 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/m³ | General population | Systemic |
| | DNEL | Long term Dermal | 0.622 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 2.01 mg/m³ | Workers | Systemic |
| xylene | DNEL | Long term Oral | 12.5 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 65.3 mg/m³ | General population | Local |
| | DNEL | Long term Inhalation | 65.3 mg/m³ | General population | Systemic |
| | DNEL | Long term Dermal | 125 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 212 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 221 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 221 mg/m³ | Workers | Systemic |

## SECTION 8: Exposure controls/personal protection

| | | | | | |
|---|---|---|---|---|---|
| | DNEL | Short term Inhalation | 260 mg/m³ | General population | Local |
| | DNEL | Short term Inhalation | 260 mg/m³ | General population | Systemic |
| | DNEL | Short term Inhalation | 442 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 442 mg/m³ | Workers | Systemic |
| 2-mercaptoethanol | DNEL | Short term Oral | 0.025 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Oral | 0.025 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Dermal | 0.05 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Dermal | 0.05 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Inhalation | 0.17 mg/m³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 0.17 mg/m³ | Workers | Systemic |
| ethylbenzene | DNEL | Long term Oral | 1.6 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 15 mg/m³ | General population | Systemic |
| | DNEL | Long term Inhalation | 77 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 180 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Inhalation | 293 mg/m³ | Workers | Local |
| | DMEL | Long term Inhalation | 442 mg/m³ | Workers | Local |
| | DMEL | Short term Inhalation | 884 mg/m³ | Workers | Systemic |

**PNECs**

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|---|---|---|---|
| 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 | - |
| xylene | Fresh water | 0.044 mg/l | - |
| | Fresh water | 0.01 mg/l | - |
| | Marine water | 0.004 mg/l | - |
| | Marine water | 0.001 mg/l | - |
| | Sewage Treatment Plant | 1.6 mg/l | - |
| | Fresh water sediment | 2.52 mg/kg | - |
| | Marine water sediment | 0.252 mg/l | - |
| | Soil | 0.852 mg/kg | - |
| 2-mercaptoethanol | Fresh water | 0.006 mg/l | - |
| | Fresh water | 0.004 mg/l | - |
| | Marine water | 0.001 mg/l | - |
| | Sewage Treatment Plant | 60 mg/l | - |
| | Fresh water sediment | 0.024 mg/kg | - |
| | Marine water sediment | 0.002 mg/kg | - |
| | Soil | 0.908 mg/kg | - |

## SECTION 8: Exposure controls/personal protection

| | | | |
|---|---|---|---|
| ethylbenzene | Fresh water | 0.1 mg/l | - |
| | Fresh water | 0.1 mg/l | - |
| | Marine water | 0.01 mg/l | - |
| | Sewage Treatment Plant | 9.6 mg/l | - |
| | Fresh water sediment | 13.7 mg/l | - |
| | Marine water sediment | 1.37 mg/kg | - |
| | Soil | 2.68 mg/kg | - |
| | Secondary Poisoning | 20 mg/kg | - |

### 8.2 Exposure controls

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**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.]

## SECTION 9: Physical and chemical properties

**Color** : Various
Beige.
Black.
Brown.
Red.
Gray.
White.
Yellowish-brown.
Dark Brown.

**Odor** : Aromatic.

**Odor 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: 800000 to 1200000 mPa·s

**Solubility(ies)** :

| Media | Result |
|---|---|
| cold water | Not soluble |

**Solubility in water** : Insoluble

**Miscible with water** : No.

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

**Vapor pressure** : Not available.

**Relative density** : Not available.

**Density** : 1.53 to 1.56 g/cm³ [20°C (68°F)]

**Vapor density** : Not applicable.

**Explosive properties** : Not available.

**Oxidizing 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** : Avoid excessive heat for prolonged periods of time.

**10.5 Incompatible materials** : strong alkalis
strong acids
Strong oxidizing materials

## SECTION 10: Stability and reactivity

**10.6 Hazardous decomposition products** : Decomposition products may include the following materials:
Hydrogen sulfide
sulfur oxides ($SO_2$, $SO_3$ etc.)
Formaldehyde

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Terphenyl, hydrogenated | LD50 Oral | Rat | 17500 mg/kg | - |
| xylene | LC50 Inhalation Gas. | Rat | 5000 ppm | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| 2-mercaptoethanol | LD50 Oral | Rat | 244 mg/kg | - |
| ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |

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

**Acute toxicity estimates**

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| ARBOKOL® 1000 | 3642.5 | 35714.3 | N/A | 2142.9 | N/A |
| barium oxide, obtained by calcining witherite | 100 | N/A | N/A | N/A | N/A |
| Terphenyl, hydrogenated | 17500 | N/A | N/A | N/A | N/A |
| xylene | 4300 | 1100 | 5000 | N/A | N/A |
| 2-mercaptoethanol | 244 | 50 | N/A | 3 | N/A |
| ethylbenzene | 3500 | N/A | N/A | 11 | N/A |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| titanium dioxide | Skin - Mild irritant | Human | - | 72 hours 300 ug l | - |
| xylene | Eyes - Mild irritant | Rabbit | - | 87 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 mg | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 uL | - |
| | Skin - Moderate irritant | Rabbit | - | 100 % | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |
| 2-mercaptoethanol | Eyes - Severe irritant | Rabbit | - | 2 mg | - |
| ethylbenzene | Eyes - Severe irritant | Rabbit | - | 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 15 mg | - |
| silicon dioxide | Eyes - Mild irritant | Rabbit | - | 24 hours 25 mg | - |

**Conclusion/Summary**

**Skin** : Skin Irrit. 2

**Eyes** : Eye Dam. 1

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

**Sensitization**

**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.

## SECTION 11: Toxicological information

### Carcinogenicity

It has been observed that the carcinogenic hazard of this product arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung.

**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)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Reaction mass of calcium carbonate and calcium dihydroxide and calcium peroxide | Category 3 | - | Respiratory tract irritation |
| xylene | Category 3 | - | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| xylene | Category 2 | - | - |
| 2-mercaptoethanol | Category 2 | - | - |
| ethylbenzene | Category 2 | - | hearing organs |

### Aspiration hazard

| Product/ingredient name | Result |
|---|---|
| xylene | ASPIRATION HAZARD - Category 1 |
| ethylbenzene | ASPIRATION HAZARD - Category 1 |

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

### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**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

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

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

**Ingestion** : Adverse symptoms may include the following:
stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Irritating to skin.
May cause skin sensitization.
Severely irritating to eyes.

## SECTION 11: Toxicological information

**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** : 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 |
|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis [2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | Acute EC50 >20 mg/l Fresh water | Daphnia | 48 hours |
| titanium dioxide | Acute LC50 3 mg/l Fresh water | Crustaceans - Water flea - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 6.5 mg/l Fresh water | Daphnia - Water flea - Daphnia pulex - Neonate | 48 hours |
| | Acute LC50 >1000000 µg/l Marine water | Fish - Mummichog - Fundulus heteroclitus | 96 hours |
| xylene | Acute LC50 8500 µg/l Marine water | Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio | 48 hours |
| | Acute LC50 13400 µg/l Fresh water | Fish - Fathead minnow - Pimephales promelas | 96 hours |
| ethylbenzene | Acute EC50 4900 µg/l Marine water | Algae - Diatom - Skeletonema costatum | 72 hours |
| | Acute EC50 7700 µg/l Marine water | Algae - Diatom - Skeletonema costatum | 96 hours |
| | Acute EC50 6.53 mg/l Marine water | Crustaceans - Brine shrimp - Artemia sp. - Nauplii | 48 hours |
| | Acute EC50 2.93 mg/l Fresh water | Daphnia - Water flea - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 4200 µg/l Fresh water | Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 1 mg/l | Crustaceans - Ceriodaphnia dubia | - |
| 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 |

**Conclusion/Summary** : Aquatic Chronic 3

### 12.2 Persistence and degradability

# SECTION 12: Ecological information

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| Reaction Mass of Benzyl (1R,1S) 2,2,4-trimethyl-1-[(2-methylpropanoyl)oxy] pentan-3-yl benzene-1,2-dicarboxylate and Benzyl (3R,3S) 2,2,4-trimethyl-3-[(2-methylpropanoyl)oxy] pentyl benzene-1,2-dicarboxylate | - | 89 % - Readily - 28 days | - | - |

**Conclusion/Summary** : Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis [2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | - | - | Not readily |
| Reaction Mass of Benzyl (1R,1S) 2,2,4-trimethyl-1-[(2-methylpropanoyl)oxy] pentan-3-yl benzene-1,2-dicarboxylate and Benzyl (3R,3S) 2,2,4-trimethyl-3-[(2-methylpropanoyl)oxy] pentyl benzene-1,2-dicarboxylate | - | - | Readily |
| Terphenyl, hydrogenated | Marine water 67 days, 20°C | - | - |
| xylene | - | - | Readily |

## 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Reaction Mass of Benzyl (1R,1S) 2,2,4-trimethyl-1-[(2-methylpropanoyl)oxy] pentan-3-yl benzene-1,2-dicarboxylate and Benzyl (3R,3S) 2,2,4-trimethyl-3-[(2-methylpropanoyl)oxy] pentyl benzene-1,2-dicarboxylate | - | 45709 | high |
| Terphenyl, hydrogenated | - | 5200 | high |
| xylene | 3.12 | 8.1 to 25.9 | low |
| 2-mercaptoethanol | -0.056 | - | low |
| ethylbenzene | 3.6 | - | low |

## 12.4 Mobility in soil

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

**Mobility** : Not available.

## 12.5 Results of PBT and vPvB assessment

## SECTION 12: Ecological information

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|---|---|---|---|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis [2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | No | N/A | N/A | No | N/A | N/A | N/A |
| Reaction Mass of Benzyl (1R,1S) 2,2,4-trimethyl-1-[(2-methylpropanoyl)oxy] pentan-3-yl benzene-1,2-dicarboxylate and Benzyl (3R,3S) 2,2,4-trimethyl-3-[(2-methylpropanoyl)oxy] pentyl benzene-1,2-dicarboxylate | No | N/A | Yes | No | N/A | N/A | Yes |
| Reaction mass of calcium carbonate and calcium dihydroxide and calcium peroxide | No | N/A | N/A | No | N/A | N/A | N/A |
| Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)] bis[oxirane] | No | N/A | N/A | No | N/A | N/A | N/A |
| Terphenyl, hydrogenated | No | Yes | Yes | No | SVHC (Candidate) | Specified | Specified |
| xylene | 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 minimized 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 minimized 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** | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **14.2 UN proper shipping name** | - | - | - | - |
| **14.3 Transport hazard class(es)** | - | - | - | - |
| **14.4 Packing group** | - | - | - | - |
| **14.5 Environmental hazards** | No. | No. | No. | No. |

**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 authorization

###### 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** : Not applicable.

##### Seveso Directive

This product is not controlled under the Seveso Directive.

##### National regulations

## SECTION 15: Regulatory information

| Product/ingredient name | List name | Name on list | Classification | Notes |
|---|---|---|---|---|
| Quartz (SiO2) | 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

## SECTION 16: Other information

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 Dam. 1, H318 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |
| Aquatic Chronic 3, H412 | Calculation method |

**Full text of abbreviated H statements**

| | |
|---|---|
| H225 | Highly flammable liquid and vapor. |
| H226 | Flammable liquid and vapor. |
| H271 | May cause fire or explosion; strong oxidizer. |
| H301 | Toxic if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H310 | Fatal in contact with skin. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

**Full text of classifications**

| | |
|---|---|
| Acute Tox. 2 | ACUTE TOXICITY - Category 2 |
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Acute 1 | AQUATIC HAZARD (ACUTE) - Category 1 |
| Aquatic Chronic 2 | AQUATIC HAZARD (LONG-TERM) - Category 2 |
| Aquatic Chronic 3 | AQUATIC HAZARD (LONG-TERM) - Category 3 |
| Asp. Tox. 1 | ASPIRATION HAZARD - Category 1 |
| Carc. 2 | CARCINOGENICITY - Category 2 |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 |
| Flam. Liq. 2 | FLAMMABLE LIQUIDS - Category 2 |
| Flam. Liq. 3 | FLAMMABLE LIQUIDS - Category 3 |
| Ox. Sol. 1 | OXIDIZING SOLIDS - Category 1 |
| Repr. 2 | TOXIC TO REPRODUCTION - Category 2 |
| Skin Corr. 1A | SKIN CORROSION/IRRITATION - Category 1A |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITIZATION - Category 1 |
| Skin Sens. 1A | SKIN SENSITIZATION - Category 1A |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3 |

**Date of printing** : 7 March 2023

**Date of issue/ Date of revision** : 3 January 2023

**Date of previous issue** : 3 January 2023

## SECTION 16: Other information

**Version** : 3.01

**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.**