

VERDERSIL[®]

Safety, technical, product
and hazard data sheet



According to directive 91/155/EC
Edition: February 2011

VERDER

passion for pumps

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VERDERSIL is an alternative lubricant / coolant used with the VERDERFLEX® range of and other peristaltic or hose pumps

⚠ WARNING

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

1 Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Identification of Substance or Preparation

| | |
|-------------------------|--|
| PRODUCT NAME | Verdersil |
| CHEMICAL IDENTIFICATION | Silicone fluid (Polydimethyl siloxane 350 CPS) |
| CAS NUMBER | Preparation |
| USE | Pump Lubricant / Coolant |

1.2 Company Identification

| | |
|----------------------------------|--|
| PRODUCER / SUPPLIER | VERDER LIMITED Unit 3 California Drive Castleford WF10 5QH GREAT BRITAIN |
| TEL NUMBER | +44 (0) 1924 221 020 |
| FAX NUMBER | +44 (0) 113 246 5649 |
| EMERGENCY TEL NUMBER | |
| For advice on this product call: | +44 (0) 1924 221 020 |

2 Composition / Information on Ingredients

- This product, Polydimethyl siloxane, contains no substances classified as hazardous to health in concentrations that should be taken into account according to EC directive 91/155/EC
- Main constituent may cause irritation to eyes and skin.
- Irritating to respiratory system in the form of a mist.

3 Hazardous Identification

This product is not classified as hazardous according to EC directive 91/155/EC

WARNING

- May cause irritation to eyes and skin.
- Irritating to respiratory system in the form of a mist.
- Contact with hot product may cause burns.
- Product is a lubricant and in the event of untreated spillage, can cause external surfaces to become slippery when wet

4 First Aid Measures

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

4.1 Ingestion

- No first aid should be required but should any symptoms persist, seek medical advice

4.2 Inhalation

- No first aid should be required but should any symptoms persist, seek medical advice

4.3 Skin Contact

- No first aid should be required but should any symptoms persist, seek medical advice
- Wash thoroughly with mild soap and water as soon as reasonably practical.
- Remove heavily contaminated clothing and wash underlying skin

4.4 Eye Contact

- Direct contact may cause temporary redness and discomfort
- Wash eyes thoroughly with copious amounts of water for at least 10 minutes, ensuring that eyelids are held open
- Obtain medical advice if any pain or redness develops or persists

5 Fire Fighting Measures

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

5.1 Extinguishing Media

- Carbon dioxide, foam, dry powder or water spray
- Water can be used to cool fire-exposed containers

5.2 Extinguishing Media To Avoid

- None known

5.3 Unusual Fire and Explosion Hazards

- None known

5.4 Special Protective Equipment for Fire fighters

- A self-contained respirator and protective clothing should be worn. Keep containers cool with water spray until well after the fire is out. Determine the need to evacuate or isolate any area in accordance with local emergency plans.
- Hazardous combustion products include Silica, Carbon Oxides and traces of incompletely burned carbon compounds may form. Formaldehyde may also be found

5.5 NFPA Profile

- Health: 0 Flammability: 1 Instability/Reactivity: 0

Note: NFPA = National Fire Protection Association

6 Accidental Release Measures

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant appropriate product information

6.1 Personal Protection

- Wear goggles and gloves. If spillage has occurred in a confined space, ensure sufficient ventilation and check that a safe, breathable atmosphere is present before entry.

6.2 Environmental Precautions

- Prevent from spreading or entering drains, ditches or rivers by using sand, earth or other appropriate barriers

6.3 Methods for Cleaning Up

- Determine the need to evacuate or isolate the area in accordance with local emergency plan. Very large spills should be contained by bunding or similar methods. Contain and recover liquid, soak up with absorbent material (sand, peat, etc.) or contain and shovel into drums or containers.
- Small spillages may be washed to drains with detergent and water.
- **Caution** : *Spilled product will produce an extremely slippery surface*

7 Handling and Storage

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

7.1 Handling

- Contact with hot product causes burns.
- Avoid contact with eyes. If splashing is likely to occur wear a full visor or chemical goggles to appropriate local national standards.
- Avoid frequent or prolonged skin contact with fresh or used product.
- Wash hands thoroughly after use.

7.2 Storage

- Store under cover away from moisture and sources of ignition. Do not overheat in storage.

8 Exposure Controls / Personal Protection

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

None of the components have assigned exposure limits

8.1 Personal Protection

- Hand Protection PVC or Rubber Gloves
- Eye Protection Safety glasses should be worn
- Respiratory Protection Respiratory protection is unnecessary, providing concentration of vapour, mists or fumes is adequately controlled.

8.2 Occupational Exposure Limits

- Ensure good ventilation.
- No known assigned exposure limits

8.3 Additional Information

These precautions are for room temperature handling

Use at elevated temperatures may require additional precautions

9 Physical and Chemical Properties

| | |
|---------------------------|------------------------------------|
| FORM | Viscous liquid |
| COLOUR | Colourless |
| ODOUR | Odourless |
| SOLIDIFICATION POINT | < -45°C / <-60°F approx. |
| FLASH POINT | 121°C / 250°F approx. (Closed cup) |
| BOILING POINT | >200°C / >390°F |
| SOLUBILITY IN WATER | 0 g/litre at 20°C |
| VISCOCITY | 350 mPas approx. at 20°C / 68°F |
| AUTO IGNITION TEMPERATURE | >200°C / >390°F. |
| EXPLOSION LIMITS | Not explosive |
| DENSITY (20°C/68°F) | 970 kg/m3 approx. |

10 Stability and Reactivity

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

10.1 Conditions to Avoid

- Preparation is stable and unlikely to react in a hazardous manner under normal conditions of use.
- No special precautions other than good housekeeping of chemicals.

10.2 Materials to Avoid

- Can react with strong oxidizing agents

10.3 Hazardous Decomposition Products

- Hazardous decomposition products including Formaldehyde and Silica can be formed, refer to Toxicology Information, section 11.

11 Toxicological Information

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

11.1 Toxicity Data

- General non-toxic lubricant /coolant
- Other than temporary discomfort on contact with the eyes, no adverse effects are normally expected

11.2 Significant Data with Possible Relevance to Human Health

- Eyes - Unlikely to cause more than transient stinging or redness if accidental eye contact occurs
- Skin - Unlikely to cause harm to the skin
- Ingestion - Unlikely to cause harm if accidentally swallowed in small doses, although larger quantities should be avoided
- Inhalation - At ambient temperatures this product will be unlikely to present an inhalation hazard

11.3 Other Health Hazard Information

- Product may emit Formaldehyde vapours at temperatures above 150°C/302°F in the presence of air. Formaldehyde vapour is harmful by inhalation and irritating to the eyes and respiratory system at breathing concentrations of less than 1ppm (1 part per million)

12 Ecological Information

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

12.1 Environmental Fate and Distribution

- Air: This product is a high molecular weight liquid polymer, which has a very low vapour pressure (<1mm Hg). As a result it is unlikely to become an atmospheric contaminant unless generated as an aerosol
- Water: This product has a very low water solubility (< 100 ppb). As it has a specific gravity of < 1, if discharged to water, it will initially form a surface film. As the product is non-volatile and has a high binding affinity for particulate matter, it will adsorb to particulates and sediment out.
- Soil: If discharged to surface water, this product will bind to sediment. If discharged in effluent to a waste water treatment plant, the product is removed from the aqueous phase by binding to sewage sludge. If the sewage sludge is subsequently spread on soil, the silicone product is expected to degrade.
- Degradation: This product, polydimethylsiloxane, degrades in soil abiotically to form smaller molecules. These in turn are either biodegraded in soil or volatilized into the air where they are broken down in the presence of sunlight. Under appropriate conditions, the ultimate degradation products are inorganic silica, carbon dioxide and water vapour. Due to the very low water solubility of this product, standard OECD protocols for ready and inherent biodegradability are not suitable for measuring the biodegradability of this product. The product is removed >80% during the sewage treatment process.

12.2 Environmental Effects

- **Toxicity to Water Organisms:** Based on analogy to similar materials this product is expected to exhibit low toxicity to aquatic organisms.
- **Toxicity to Soil Organisms:** Experiments show that when sewage sludge containing polydimethylsiloxane is added to soil, it has no effect on soil micro-organisms, earthworms or subsequent crops grown in the soil.

12.3 Bioaccumulative

- This product is a liquid and is a high molecular weight polymer. Due to its physical size it is unable to pass through, or be absorbed by biological membranes. This has been confirmed by testing or analogy with similar products.

12.4 Fate and Effects in Waste Water Treatment Plants

- This product or similar products has been shown to be non-toxic to sewage sludge bacteria.

Ecotoxicity Classification Criteria

| Hazard Parameters (LC50 or EC50) | High | Medium | Low |
|----------------------------------|------------|------------------------|---------|
| Acute Aquatic Toxicity (mg/L) | ≤ 1 | >1 and ≤ 100 | >100 |
| Acute Terrestrial Toxicity | ≤ 100 | >100 and ≤ 2000 | >2000 |

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993. This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13 Disposal Considerations

Used lubricant may become contaminated with pumped product, also verify precautions and advice against relevant product information

13.1 Waste Disposal Method(s)

- Where possible, arrange for unused product to be recycled.

RCSA Hazard Class (40 CFR 261)

- When a decision is made to discard this material, as received, is it classified as a hazardous waste? – No
- State or local laws may impose additional regulatory requirements regarding disposal.

14 Transport Information

- Not classified as dangerous for transport (RID/ADR-ADNE-IATA-IMDG-MARPOL-ICAO)
- DOT Road Shipment Information (49 CFR 172.101) – Not subject to DOT

15 Regulatory Information

- Labelling according to EEC Directive – No special packaging or labelling requirements
- National legislation/regulations Ozone depleting chemicals – No ozone depleting chemicals are present or used in manufacture

Status

EINECS: All ingredients listed or exempt

TSCA: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical substances.

16 OSHA Hazard Regulatory Information to Standard CFR29 1910.1200

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

16.1 TSCA Status

All chemical substances in this material are included on or exempted from listing on the TSCA

16.2 EPA SARA Title III Chemical Listings

| | |
|--|--|
| Section 302 Extremely Hazardous Substances: | None. |
| Section 304 CERCLA Hazardous Substances: | None. |
| Section 312 Hazard Class: | |
| Acute: | No |
| Chronic | No |
| Fire | No |
| Pressure | No |
| Reactive | No |
| Section 313 Toxic Chemicals | None present or none present in regulated quantities |

16.3 Supplemental State Compliance Information for California

- **Warning:** This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm
- None known.

16.4 Supplemental State Compliance Information for Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

16.5 Supplemental State Compliance Information for New Jersey

| CAS Number | Wt % | Component Name |
|------------|--------|----------------------|
| 63148-62-9 | > 60.0 | Polydimethylsiloxane |

16.6 Supplemental State Compliance Information for Pennsylvania

| CAS Number | Wt % | Component Name |
|------------|--------|----------------------|
| 63148-62-9 | > 60.0 | Polydimethylsiloxane |

17 Other Information

- Employees of the Verder group have not experienced any harmful effect during normal handling and production.
- Verdersil and Verderflex[®] are registered trademarks.

*The information contained in this sheet is based on our knowledge of the preparation at its delivery date and that the information contained herein is current as of the date of this data sheet. Since the use of this information, and of these opinions and the conditions of use of this preparation is not within the control of Verder Limited, it is the user's obligation to determine the conditions of safe use of the preparation.



The information contained in this sheet is based on our knowledge of the product at its delivery date