

Maintenance package for springwire and lamella contacts



Maintenance package

Order number: 170.000.000.000.100

CONTENTS:

- Maintenance instructions
- 1 spray bottle with contact lubricant (50 ml)
- 1 cleaning cloth (microfiber)
- 1 cleaning brush

It is recommended that springwire and lamella contacts be cared for and relubricated regularly in order to increase the contact lifetime of these contacts. Routine maintenance counteracts wear and reduces wear-related force fluctuations.

The ODU maintenance package contains the lubricant BERULUB VPT 380. Technical data and a safety datasheet for the lubricant can be found in the following pages.

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BERULUB VPT 380

Special dispersion containing PTFE, for lifetime lubrication of connectors, for lubricating plastics and for acoustic insulation

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|--|
| Application area |
| <p>BERULUB VPT 380 is a physically-acting, fully synthetic paste lubricant, dissolved in a nontoxic and non-combustible solvent (dispersion). After the evaporation of the solvent (3-5 sec.), a razor-thin lubricating film forms on the friction partners.</p> <p>Proven application methods are the immersion or spray procedure. In order to prevent the dispersion from settling, the immersion bath in a storage container should be constantly stirred.</p> <p>BERULUB VPT 380 is characterized by its excellent low-temperature performance and its excellent acoustic insulation on plastics and elastomers.</p> |
| Example applications |
| <p>BERULUB VPT 380 is used to reduce friction and wear in all mechanical and electric switch components and connectors, particularly in those that are coated with tin, silver and gold, such as found in modern motor vehicles and in household and installation technology.</p> <p>BERULUB VPT 380 is furthermore especially used for lubricating polymer materials and elastomers, because it has been seen to be largely neutral with respect to these materials so far. Particularly with plastic grades such as PC, PMMA and ABS that are susceptible to stress corrosion, no migration whatsoever has been seen to date.*</p> |

9013309
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Characteristics

- **Operating temperature -40° to +250°C (-40° to 482° F)**
- **High oxidation resistance**
- **Very good plastic compatibility**
- **Lengthens the service life of the contacts**
- **Prevents surface contamination on the contacts**
- **Contains PTFE**
- **Odorless**
- **Ozone-friendly thinner**

| | | | |
|--|--------------------------------|--------------|--------------|
| Thickening agent | Polytetrafluoroethylene – PTFE | | |
| Worked penetration | 1/10 mm | 265 – 295 | DIN ISO 2137 |
| Density after evaporation of the solvent | g/cm ³ | approx. 1.85 | DIN 51757 |
| Base oil | Perfluoropolyether | | |
| Kin. viscosity at 40° C (104° F) | mm ² /s | 325 – 340 | DIN 51 562 |

Typical characteristics

- **NLGI class 2**
- **Color: colorless/transparent**

This information reflects the current state of the technology and is subject to change. This information does not guarantee any characteristics for a specific case and does not release the consumer from conducting its own tests. Further information upon request.

*We recommend that the resistance of the materials that will come into contact with the lubricant be checked, particularly before starting volume production.

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 18.06.2008

Revision: 17.06.2008

1 Identification of substance:

- **Product details:**
- **Trade name:** **BERULUB VPT 380**
- **Application of the substance / the preparation** Lubricant
- **Manufacturer/Supplier:**
CARL BECHEM GMBH
Weststrasse 120
58089 Hagen, Germany
Phone +49 2331 935-0
Fax +49 2331 935-1199
E-Mail: bechem@bechem.de
<http://www.bechem.de>
- **Informing department:**
product safety department

reach@bechem.com
- **Emergency information:** +49 2331 935-1500
- **Code:** 9013309



2 Hazards identification

- **Hazard designation:** void
- **Information pertaining to particular dangers for man and environment** void
- **Classification system**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- **Additional information:**
Please take care of the precautions for the treatment of fluorine containing products. Dangerous decomposition products may be formed at temperatures exceeding 300 °C.

3 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Preperation of perfluoropolyethers.
- **Dangerous components:** Void

4 First aid measures

- **After inhalation** Supply fresh air.
- **After skin contact** Wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing** Seek medical treatment.

5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **Special hazards caused by the material, its products of combustion or flue gases:**
Carbonmonoxide (CO) and carbondioxide (CO₂)
Hydrogen fluoride (HF)
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.

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Wear self-contained breathing apparatus.

6 Accidental release measures

- **Person-related safety precautions:** Particular danger of slipping on leaked/spilled product.
- **Measures for environmental protection:**
Do not allow product to reach sewage system or water bodies.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous materials are released.

7 Handling and storage

- **Handling**
- **Information for safe handling:**
Do not smoke when handling the product.
No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:** Store only in the original container.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** None.
- **Recommended storage temperature:** room temperature

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with critical values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to when handling the lubricant.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves:** Nitrile rubber, NBR
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Not suitable are gloves made of the following materials:**
Leather gloves
Strong gloves
- **Eye protection:** Safety glasses recommended during refilling.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· General Information

| | |
|----------------|-----------|
| Form: | Paste |
| Colour: | beige |
| Smell: | Odourless |

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|---|--|
| · Change in condition Melting point/Melting range: Not determined Boiling point/Boiling range: > 200°C | |
| · Flash point: | Base oil |
| · Ignition temperature: | not determined |
| · Self-inflammability: | Product is not self igniting. |
| · Danger of explosion: | Product is not explosive. |
| · Density at 20°C | ca. 1.68 g/cm ³ (DIN 51757) |
| · Solubility in / Miscibility with Water: | Not mixable or difficult to mix |

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
To avoid thermal decomposition do not overheat.
- **Dangerous reactions** Reacts with oxygen
- **Dangerous products of decomposition:**
Carbon monoxide and carbon dioxide
Danger of toxic fluorine based pyrolysis products

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information:

- **General notes:** At present there are no ecotoxicological assessments.

13 Disposal considerations

- **Product:**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
It is not possible to state the European waste code from the CE catalogue since the classification of these codes is done according to the individual industries. Therefore several codes can be related to one product. The correct classification can be done by the user only.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

- Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)
- ADR/RID-GGVS/E Class: -

- Maritime transport IMDG/GGVSea:
- IMDG/GGVSea Class: -
- Marine pollutant: No

- Air transport ICAO-TI and IATA-DGR:
- ICAO/IATA Class: -

- **Transport/Additional information:** Not dangerous according to the above specifications.

15 Regulatory information

- **Designation according to EC guidelines:**
The product is not subject to classification according to the calculation methods of the "General Classification Guideline for Preparations of the EC" as issued in the last version.
- **National regulations**
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

This data is based on our present knowledge. However, it shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing data specification sheet:** product safety department
- **Contact:** reach@bechem.com
- * **Data compared to the previous version altered.**

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