SAFETY DATA SHEET

XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK


<table>
<thead>
<tr>
<th>1. Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product identifier</strong></td>
</tr>
<tr>
<td>Product name</td>
</tr>
</tbody>
</table>

**Recommended use of the chemical and restrictions on use**

Application: Lubricant.

**Details of the supplier of the safety data sheet**

Supplier: MICROCARE CORPORATION

Manufacturer: MICROCARE CORPORATION
595 John Downey Drive
New Britain, CT 06051
United States of America
CAGE: OATV9
Tel: +1 800 638 0125, +1 860-827-0626
Fax: +1 860-827-8105
techsupport@microcare.com

Emergency telephone number

Emergency telephone: CHEMTREC 1-800-424-9300 (within the U.S.)
+1 703-741-5970 (from anywhere in the world)

<table>
<thead>
<tr>
<th>2. Hazard(s) identification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification of the substance or mixture</strong></td>
</tr>
<tr>
<td>OSHA Regulatory Status</td>
</tr>
<tr>
<td>Physical hazards</td>
</tr>
<tr>
<td>Health hazards</td>
</tr>
<tr>
<td>Environmental hazards</td>
</tr>
</tbody>
</table>

**Human health**

Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild dermatitis, allergic skin rash.

**Environmental**

The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

**Physicochemical**

Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Gas or vapor displaces oxygen available for breathing (asphyxiating).

**Label elements**

**Hazard statements**

H412 Harmful to aquatic life with long lasting effects.
XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK

Precautionary statements
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with national regulations.

Supplemental label information
Safety data sheet available on request. For use in industrial installations only.

Other hazards
This product does not contain any substances classified as PBT or vPvB.

3. Composition/Information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>1,1,1,2,2,3,4,5,5,5-decafluoropentane</th>
<th>60-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 138495-42-8</td>
<td></td>
</tr>
</tbody>
</table>

Classification
Aquatic Chronic 3 - H412

<table>
<thead>
<tr>
<th>Poly-tfe, omega-hydro-alpha-(methylcyclohexyl)</th>
<th>1-5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 65530-85-0</td>
<td></td>
</tr>
</tbody>
</table>

Classification
Not Classified

The full text for all hazard statements is displayed in Section 16.

Composition comments
The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200 TSCA: The ingredients of this product are on the TSCA Inventory.

Composition

4. First-aid measures

Description of first aid measures

General information
Never give anything by mouth to an unconscious person. Do not induce vomiting. Place unconscious person on the side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration.

Inhalation
Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.

Ingestion
Never give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention immediately.

Skin Contact
Wash skin thoroughly with soap and water. Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.

Eye contact
Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

Most important symptoms and effects, both acute and delayed

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
**XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK**

**Inhalation**
Vapors in high concentrations are anesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.

**Ingestion**
May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

**Skin contact**
Product has a defatting effect on skin. May cause allergic contact eczema.

**Eye contact**
May cause temporary eye irritation.

**Indication of immediate medical attention and special treatment needed**
No specific recommendations. If in doubt, get medical attention promptly.

**5. Fire-fighting measures**

**Extinguishing media**

**Suitable extinguishing media**
The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media**
Water spray. Never use water by itself on spillage; this will spread the spill and cause further contamination.

**Special hazards arising from the substance or mixture**

**Flammability Class**
The product is not flammable. TCC (Tag closed cup).

**Specific hazards**
Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors. Closed containers can burst violently when heated, due to excess pressure build-up.

**Hazardous combustion products**

**Advice for firefighters**

**Protective actions during firefighting**
Containers close to fire should be removed or cooled with water.

**Special protective equipment for firefighters**
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level. In case of spills, beware of slippery floors and surfaces.

**Environmental precautions**
Contain spillage with sand, earth or other suitable non-combustible material. Avoid release to the environment.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**
Absorb spillage with non-combustible, absorbent material. Do not discharge into drains or watercourses or onto the ground. Contain and absorb spillage with sand, earth or other non-combustible material. Collect spillage with a shovel and broom, or similar and reuse, if possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. It is recommended that gloves are made of the following material: Neoprene.
7. Handling and storage

Precautions for safe handling

Usage precautions
Provide adequate ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage precautions
Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class
Unspecified storage. The product is not flammable.

Specific end use(s)

The identified uses for this product are detailed in Section 1.

Reference to other sections
Store away from incompatible materials (see Section 10).

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

1,1,1,2,2,3,4,5,5-decafluoropentane
No information available that would effect occupational exposure limit values.

Additional Occupational Exposure Limits

Exposure controls

Protective equipment

Appropriate engineering controls
No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.

Eye/face protection
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl alcohol (PVA). Viton rubber (fluoro rubber).

Other skin and body protection
Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.

Hygiene measures
Avoid inhalation of spray mist and contact with skin and eyes. When using do not eat, drink or smoke. Wash skin thoroughly after handling.

Respiratory protection
Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear self-contained breathing apparatus with full facepiece.
**XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK**

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Opaque liquid. Liquid. Waxy solid.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>White/off-white.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Slight. Ether.</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Initial boiling point and range</strong></td>
<td>55°C/131°F @ 101.3 kPa</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not relevant. Technically not feasible.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Evaporation factor</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Other flammability</strong></td>
<td>The product is not flammable.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not relevant.</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Refractive index</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Particle size</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Volatility</strong></td>
<td>98%</td>
</tr>
<tr>
<td><strong>Saturation concentration</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Critical temperature</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Volatile organic compound</strong></td>
<td>No information available.</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity
XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK

Reactivity
There are no known reactivity hazards associated with this product.

Stability
Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions
Not applicable.

Conditions to avoid
Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.

Materials to avoid
Alkali metals. Alkaline earth metals. Powdered metal.

Hazardous decomposition products
Heating may generate the following products: Toxic and corrosive gases or vapors. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO2). Carbon monoxide (CO).

11. Toxicological information

Information on toxicological effects

Inhalation
Vapors may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.

Ingestion
May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

Skin Contact
Product has a defatting effect on skin. May cause allergic contact eczema.

Eye contact
May cause temporary eye irritation.

Medical Symptoms
Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients.

1,1,1,2,2,3,4,5,5-decafluoropentane

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
<td>5,000.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>5,000.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute toxicity - dermal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity dermal (LD₅₀ mg/kg)</td>
<td>5,000.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>5,000.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute toxicity - Inhalation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity inhalation (LC₅₀ vapours mg/l)</td>
<td>114.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
</tbody>
</table>
XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK

ATE inhalation (vapours mg/l) 114.0

Skin corrosion/irritation

Animal data Not irritating. Rabbit

Human skin model test Data lacking.

Extreme pH Not applicable. Not corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. Rabbit

Respiratory sensitization

Respiratory sensitization Data lacking.

Skin sensitization

Skin sensitization Not sensitizing. - Guinea pig: Not sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity Does not contain any substances known to be carcinogenic.

IARC carcinogenicity Not listed.

NTP carcinogenicity Not listed.

OSHA Carcinogenicity Not listed.

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Skin Contact Skin irritation should not occur when used as recommended. May cause defatting of the skin but is not an irritant.

Eye contact May cause eye irritation.

Acute and chronic health hazards There is no evidence that the product can cause cancer.

12. Ecological Information

Ecotoxicity The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Ecological information on ingredients.

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Ecotoxicity It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.
XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK

Ecological information on ingredients.

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Acute toxicity - fish

LC₅₀, 96 hours: 13.9 mg/l, Onchorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates

LC₅₀, 48 hours: 11.7 mg/l, Daphnia magna

Acute toxicity - aquatic plants

EC₅₀, 72 hours: >120 mg/l, Algae

Persistence and degradability

There are no data on the degradability of this product.

Bioaccumulative potential

Bio-Accumulative Potential

No data available on bioaccumulation.

Partition coefficient

No information available.

Ecological information on ingredients.

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Bio-Accumulative Potential

Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient

Pow: 2.7

Mobility in soil

Mobility

No data available.

Other adverse effects

The product contains a substance or substances that will contribute to global warming (greenhouse effect).

13. Disposal considerations

Waste treatment methods

General information

Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Reuse or recycle products wherever possible.

14. Transport information

General

Not regulated. The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN proper shipping name

No information required.

Transport hazard class(es)

No information required.

Transport labels

No transport warning sign required.

Packing group
No information required.

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
Not applicable.

Transport in bulk according to Not applicable.
Annex II of MARPOL 73/78
and the IBC Code

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
Not listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
Not listed.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
Not listed.

SARA 313 Emission Reporting
Not listed.

CAA Accidental Release Prevention
Not listed.

SARA (311/312) Hazard Categories
Acute

OSHA Highly Hazardous Chemicals
Not listed.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
Not listed.

California Air Toxics "Hot Spots" (A-I)
Not listed.

California Air Toxics "Hot Spots" (A-II)
Not listed.

California Directors List of Hazardous Substances
Not listed.

Massachusetts "Right To Know" List
Not listed.

Rhode Island "Right To Know" List
Not listed.
**XF020 - DURAGLIDE DRY LUBRICANT (2% PTFE SOLIDS) - BULK**

**Minnesota "Right To Know" List**
Not listed.

**New Jersey "Right To Know" List**
Not listed.

**Pennsylvania "Right To Know" List**
Not listed.

**Inventories**
- **Canada - DSL/NDSL**
  Yes
- **US - TSCA**
  Yes

**1,1,1,2,2,3,4,5,5,5-decafluoropentane**
Present.

1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE (CAS# 138495-42-8) is controlled by TSCA Section 5, Significant New Use Rule (SNUR; 40 CFR 721.5645) The approved uses are: precision and general cleaning, carrier fluid, displacement drying, printed circuit board cleaning, particulate removal and film cleaning, process medium, heat transfer fluid (dielectric and non-dielectric), and test fluid. Processors and users of this substance must also comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A, including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125.

1,1,1,2,2,3,4,5,5,5-Decafluoropentane 138495-42-8

The United States Environmental Protection Agency (USEPA) has established a Significant New Use Rule (SNUR) for one of the components in this product. This material contains one or more substances which requires export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D:

**Poly-tfe, omega-hydro-alpha-(methylcyclohexyl)**
Present.

16. **Other information**

<table>
<thead>
<tr>
<th>Revision comments</th>
<th>NOTE: Lines within the margin indicate significant changes from the previous revision.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revision date</strong></td>
<td>8/4/2017</td>
</tr>
<tr>
<td><strong>Revision</strong></td>
<td>13</td>
</tr>
<tr>
<td><strong>Supersedes date</strong></td>
<td>4/26/2017</td>
</tr>
<tr>
<td><strong>SDS No.</strong></td>
<td>BULK - XF020</td>
</tr>
<tr>
<td><strong>SDS status</strong></td>
<td>Approved.</td>
</tr>
<tr>
<td><strong>Hazard statements in full</strong></td>
<td>H412 Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.