Safety Data Sheet
Material Name: Low Temperature Bath Fluid, 0.8 CS Oil

*** Section 1 - Product and Company Identification ***

Manufacturer Information
Halocarbon Products Corp. Phone: +1.201.262.8899
887 Kinderkamack Road
River Edge, NJ 07661 Emergency # +1.803.278.3504

Distributor Information
Fluke Corp. Phone: +1.877.883.8225
6920 Seaway Blvd.
Everett, WA 98203 Emergency # +1.800.633.8253

*** Section 2 - Hazards Identification ***

GHS Classification:
Acute Toxicity - Oral - Category 5
Acute Toxicity - Inhalation - Category 5

GHS LABEL ELEMENTS
Symbol(s)
None

Signal Word
Warning

Hazard Statements
May be harmful if swallowed
May be harmful if inhaled

Precautionary Statements
Response
Call a POISON CENTER/doctor/physician if you feel unwell.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>9002-83-9</td>
<td>Polychlorotrifluoroethylene</td>
<td>100</td>
</tr>
</tbody>
</table>

*** Section 4 - First Aid Measures ***

First Aid: Eyes
Flush eyes immediately with water for at least 15 minutes. Seek medical help.

First Aid: Skin
Wash with soap and water.
First Aid: Ingestion
Try to induce vomiting. Seek medical help.

First Aid: Inhalation
Remove to fresh air. Apply artificial respiration if needed. Seek medical help.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards
See Section 9 for Flammability Properties.
Non-flammable

Hazardous Combustion Products
The decomposition to toxic, non-sludge forming volatiles occurs rapidly at 325°C, noticeably at 300°C and in lesser amounts at lower temperatures. Therefore, the maximum safe operating temperature recommended is 200°C and maximum short-term temperature recommended is 260°C in scrupulously clean systems.

Extinguishing Media
Use agent appropriate for surrounding fire.

Unsuitable Extinguishing Media
None

Fire Fighting Equipment/Instructions
Firefighters should wear full protective gear.

*** Section 6 - Accidental Release Measures ***

Recovery and Neutralization
None

Materials and Methods for Clean-Up
Spills may be picked up with absorbent such as vermiculite and held in covered container for disposal.

Emergency Measures
Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment
Wear proper personal protective equipment when cleaning spills.

Environmental Precautions
None

Prevention of Secondary Hazards
None

*** Section 7 - Handling and Storage ***

Handling Procedures
Wash thoroughly after handling.

Storage Procedures
None.

Incompatibilities
Reacts with active metals like sodium and potassium, amines (including additives), liquid fluorine and liquid chlorine trifluoride. Caution should be used with aluminum and magnesium under conditions of large shear forces such as those found in threaded connections.
*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits
The EU, ACGIH, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, and United Kingdom have not developed exposure limits for any of the substances in this preparation.

Engineering Measures
Adequate general ventilation plus local exhaust at points of emission.

Personal Protective Equipment: Respiratory
None needed under normal product use conditions.

Personal Protective Equipment: Hands
Use impervious gloves.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes
Use safety glasses/goggles or face shield.

Personal Protective Equipment: Skin and Body
Normal work clothing (long sleeved shirts and long pants) is recommended.

*** Section 9 - Physical & Chemical Properties ***

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Ca. 10 mm Hg (21°C)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Ca. 132°C</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>ND</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>ND</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>NA</td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>NA</td>
</tr>
<tr>
<td>(LFL)</td>
<td></td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>NA</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight ethereal</td>
</tr>
<tr>
<td>pH</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>~10</td>
</tr>
<tr>
<td>Melting Point</td>
<td>&lt;130°C</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.7 (38°C)</td>
</tr>
<tr>
<td>VOC</td>
<td>ND</td>
</tr>
<tr>
<td>Flash Point</td>
<td>NA</td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>NA</td>
</tr>
<tr>
<td>(UFL)</td>
<td></td>
</tr>
<tr>
<td>Burning Rate</td>
<td>NA</td>
</tr>
</tbody>
</table>

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability
This is a stable material.

Hazardous Reaction Potential
Will not occur.

Conditions to Avoid
None

Incompatible Products
Reacts with active metals like sodium and potassium, amines (including additives), liquid fluorine and liquid chlorine trifluoride. Caution should be used with aluminum and magnesium under conditions of large shear forces such as those found in threaded connections.
Safety Data Sheet

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Hazardous Decomposition Products
The decomposition to toxic, non-sludge forming volatiles occurs rapidly at 325°C, noticeably at 300°C and in lesser amounts at lower temperatures. Therefore, the maximum safe operating temperature recommended is 200°C and maximum short-term temperature recommended is 260°C in scrupulously clean systems.

*** Section 11 - Toxicological Information ***

Acute Toxicity
A: General Product Information
Halocarbon 0.8 oil produced no deaths among 10 rats upon an 8 hr. exposure to 2650 ppm (34.3 mg/L) during a 1999 study and is considered by OSHA definition to be nontoxic. The animals showed no signs of treatment during exposure or 14 days afterward. All animals gained weight during the 14 day observation period. Autopsy showed no macroscopic abnormalities.

In a 4 hour exposure among rats conducted in 1989, Halocarbon 0.8 oil was found to have a LC50 of 4.6 mg/L. This result placed it into EPA toxicity Category III (Slightly Toxic). The animals generally showed no response during exposure or for at least one day after exposure. Signs of toxicity including tremors, nasal discharge and labored breathing began appearing two or three days after exposure. The responses generally abated in surviving animal during the second week after exposure.

More extensive toxicity studies have been conducted on a slightly heavier Halocarbon oil (3.1). Based on all the available data in three species of animals, limited exposure to Halocarbon oil should not be harmful to any portion of the human anatomy. Studies conducted by the Air Force have demonstrated liver toxicity in rodents, but not in primates. The observed liver toxicity is believed to be specific for rodents and not relevant to humans. Halocarbon oil is not irritating to skin but skin protection should be used to prevent repeated exposure and the possibility of sensitization. All mutagenicity studies were negative.

Since the potential for human toxicity cannot be ruled out, proper ventilation and work practices should be employed.

B: Component Analysis - LD50/LC50
Polychlorotrifluoroethylene (9002-83-9)
Oral LD50 Rat >9200 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness
No skin irritation effects known.
Potential Health Effects: Eye Critical Damage/ Stimulativeness
No eye irritation effects known.
Potential Health Effects: Ingestion
May be harmful if ingested.
Potential Health Effects: Inhalation
May be harmful if inhaled.
Respiratory Organs Sensitization/Skin Sensitization
No sensitization effects known.
Generative Cell Mutagenicity
No mutagenic effects known.
Carcinogenicity

Component Carcinogenicity
None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Toxicity
No reproductive toxicity effects known.

Specified Target Organ General Toxicity: Single Exposure
No single exposure toxic effects known.

Specified Target Organ General Toxicity: Repeated Exposure
No repeat exposure toxic effects known.

Aspiration Respiratory Organs Hazard
No aspiration hazards known.

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
No ecotoxicity data are available for this product's components.

Persistence/Degradability
No information available for the product.

Bioaccumulation
No information available for the product.

Mobility in Soil
No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions
Dispose of contents in accordance with local/regional/national/international regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging
Dispose of container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

IATA Information
Shipping Name: Not Regulated

ICAO Information
Shipping Name: Not Regulated

IMDG Information
Shipping Name: Not Regulated
Safety Data Sheet

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*** Section 15 - Regulatory Information ***

Regulatory Information

Substance Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>EEC</th>
<th>CAN</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polychlorotrifluoroethylene</td>
<td>9002-83-9</td>
<td>No</td>
<td>DSL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

None

End of Sheet