SOUTHLAND DISTRIBUTION & SALES

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200) & UN GHS Classification

SECTION 1: IDENTIFICATION

Product Name: **BIOLUBE® DENTAL HANDPIECE CLEANER**
Synonyms: *trans*-Dichloroethylene
CAS Number: See Section 3
Product Use: Dental Handpiece Cleaner
Manufacturer/Supplier: Southland Distribution & Sales
4003 Enterprise Court
Augusta, GA 30907
General Information: **800-880-0240**
Transportation Emergency Number: **800-880-0240**

SECTION 2: HAZARD(S) IDENTIFICATION

GHS CLASSIFICATION: **OSHA HCS (29 CFR § 1910.1200)**

Symbols: Health Hazard, Exclamation Mark

2.1 EMERGENCY OVERVIEW

Specific Physical Form: Liquid
Odor, Color, Grade: Clear, slight amber color with mild odor.
General Physical Form: Liquid
Immediate health, physical and environmental hazards: May cause target organ effects.

2.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing and blurred or hazy vision.

Skin Contact:
Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching and dryness.

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness and nose and throat pain.

Exposures needed to cause the following health effect(s) are not expected during normal, intended use: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness and chest pain.

If thermal decomposition occurs: May be harmful if inhaled.

May be absorbed following inhalation and cause target organ effects.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Target Organ Effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness and unconsciousness.

2.3 POTENTIAL ENVIRONMENTAL EFFECTS

AQUATIC TOXICITY:
Testing results indicate that ethyl nonafluoroisobutyl ether, methyl nonafluoroisobutyl ether and methyl nonafluorobutyl ether have insignificant toxicity to aquatic organisms at their saturation point (Lowest LC50, EC50, or IC50>substance water solubility). 1,2-Transdichloroethylene is harmful to aquatic organisms (10 mg/L<Lowest LC50,EC50, or IC50< 100 mg/L). These compounds are highly volatile and have high Henry's Law constants and are thus expected to move rapidly through vaporization from solution in an aquatic compartment or from a soil surface in a terrestrial compartment to the atmosphere.

BIOCONCENTRATION:
Ethyl nonafluoroisobutyl ether, ethyl nonafluorobutyl ether, methyl nonafluoroisobutyl ether are highly insoluble and very volatile. Bioconcentration is therefore unlikely and not expected as they are not likely to enter aqueous waste streams from typical uses and disposal, or, in the case of a spill, remain in the aquatic or terrestrial compartments. The high potential for these components to move from aquatic or terrestrial environments to the atmosphere indicates bioconcentration is unlikely to occur as they are not expected to be bioavailable. Thus, emphasis has been placed on the atmospheric fate.

1,2 Trans-dichloroethylene has an octanol/water partition coefficient of <3 indicating it is unlikely to bioconcentrate.

ATMOSPHERIC FATE:
This product has Zero Ozone Depletion Potential (ODP).

Ethyl nonafluoroisobutyl ether, ethyl nonafluorobutyl ether, methyl nonafluoroisobutyl ether, and methyl nonafluorobutyl ether are listed as exempt from the US EPA definition of a volatile organic compound (VOC).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	C.A.S. No.	% by Wt
1,2 Trans-dichloroethylene	156-60-5	≤68 – 72
Ethyl nonafluorobutyl ether	163702-05-4	≤4 – 16
Ethyl nonafluoroisobutyl ether	163702-06-5	≤4 – 16
Methyl nonafluorobutyl ether	163702-07-6	≤2 – 8
Methyl nonafluoroisobutyl ether	163702-08-7	≤2 – 8

SECTION 4: FIRST-AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, seek medical attention and call Technical/Emergency 800 number.

Skin Contact: Remove saturated clothing and shoes. Immediately flush skin with large amounts of water. If signs/symptoms persist, seek medical attention. Wash clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. Seek immediate medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 NOTE TO PHYSICIANS

Exposures resulting from intentional misuse and abuse may cause an increase in myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Flash Point >176°C (>349°F)

Flammability: Low Hazard. Product is non-flammable at ambient temperature, liquid may burn at temperatures near the boiling point.

Propellant: CO_2

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide), water spray, foam, Water Fog and Sand Earth.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Exposure to extreme heat can give rise to thermal decomposition. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated. Extreme conditions of heat (welding, open flame, misuse or equipment failure) may produce decomposition products that include hydrogen fluoride and hydrogen chloride.

NOTE: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate unprotected and untrained personnel from hazard area. A large spill (< 5 gallons) should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

6.2 Environmental precautions:
For larger spills (<10 gallons), cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-Up Methods:
Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation and personal protective equipment. Call Technical No. 800-880-0240 for more information on handling and managing the spill. Contain spill. Working from around the edges of the spill inward, cover the bentonite, vermiculite or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent (isopropanol). Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Contents may be under pressure, open carefully. Avoid breathing of vapors, mists or spray. Avoid skin contact with hot material. Avoid eye contact with vapors, mists, or spray. For industrial or professional use only. Store work clothes separately from other clothing, food and tobacco products. Avoid contact with oxidizing agents. Avoid skin contact. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Avoid continuous exposure of the material to extreme conditions of heat, i.e., above 150°C (welding, open flame, misuse or equipment failure). Avoid exceeding a watt density of 50 watts/inch2 from a heater surface. Continuous exposure to 150°C results in very slight decomposition of this product and, therefore, is a very conservative use temperature threshold. Do not breathe thermal decomposition products. For additional information about applications involving exposure of the fluid to temperatures exceeding 150°C, please contact Technical Service.

7.2 STORAGE
Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area. Store away from oxidizing agents. Keep container tightly closed. Store away from strong bases. Contents may be under pressure of stored/shipped under elevated temperature. Open closure slowly to vent pressure.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers. Do not use in a confined area or areas with little or no air movement. For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Avoid eye contact with vapors, mists or spray. The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

8.2.2 Skin Protection
Avoid skin contact with material <100°C.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Fluoroelastomer, Polymer laminate.

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure: Half facepiece or full facepiece air-purifying respirator suitable for organic vapors.

For questions about suitability for a specific application, consult with your respirator manufacturer. If thermal decomposition occurs, wear supplied air respiratory protection.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit
1,2-trans-dichloroethylene	ACGIH	TWA	200 ppm
Methyl nonafluorobutyl ether	AIHA	TWA	750 ppm
Ethene, 1,2-dichloro-	ACGIH	TWA	200 ppm
Ethene, 1,2-dichloro-	OSHA	TWA	790 mg/m3
Ethyl nonafluorobutyl ether	Manufacturer Determined	TWA, as total isomers	200 ppm
Ethyl nonafluoroisobutyl ether	Manufacturer Determined	TWA, as total isomers	200 ppm
Methyl nonafluoroisobutyl ether	AIHA	TWA	750 ppm

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration
AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Liquid
Odor, Color, Grade:	Clear, colorless with slight ethereal odor.
General Physical Form:	Liquid
Autoignition Temperature:	396°C
Flash Point:	No flash point
Flammable Limits (LEL):	6.7% volume
Flammable Limits (UEL):	13.7% volume
Boiling Point:	43°C
Density:	1.28 g/ml
Vapor Density:	*No Data Available*
Vapor Pressure:	350 mmHg [@ 25°C]
Specific Gravity:	1.28 [*Ref Std:* WATER=1]
pH:	*Not Applicable*
Melting Point:	*Not Applicable*
Solubility in Water:	Negligible

Evaporation Rate:	*No Data Available*
Volatile Organic Compounds:	896 g/l [*Test Method:* South Coast Air Quality Management District]
Kow-Oct/Water Partition Coef:	*No Data Available*
Percent Volatile:	100%
VOC Less H2O and Exempt Solvents:	896 g/l [*Test Method:* calculated SCAQMD rule 443.0]
Viscosity:	0.45 centipoise

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable
Materials and Conditions to Avoid:
10.1 Conditions to Avoid: Excess Heat
10.2 Materials to Avoid: Strong bases, strong oxidizing agents.
Hazardous Polymerization: Hazardous polymerization will not occur.
Hazardous Decomposition or By-Products

Substance	Condition
Hydrogen Chloride	At Elevated Temperatures – extreme conditions of heat.
Hydrogen Fluoride	At Elevated Temperatures – extreme conditions of heat.
Perfluoroisobutylene (PFIB)	At Elevated Temperatures – extreme conditions of heat.

Hazardous Decomposition: Perfluorinated Acid Fluorides

Hydrogen Fluoride has an ACGIH Threshold Limit Value of 3 parts per million (as fluoride) as a Ceiling Limit and an OSHA PEL of 3 ppm of fluoride as an eight hour Time Weighted Average and 6 ppm of Fluoride as a Short Term Exposure Limit. The odor threshold for HF is 0.04 ppm, providing good warning properties for exposure.

Decomposition of this product at temperatures above 300°C can form perfluoroisobutylene (PFIB), but PFIB will only accumulate with continuous exposure to excessive heat in a sealed vessel. The formation rate for PFIB is about 1000 times less than the rate for primary thermal decomposition products such as HF. During normal use conditions, no health hazard is associated with the use of this material due to PFIB exposure.

SECTION 11: TOXICOLOGICAL INFORMATION

Product-Based Toxicology Information:

BioLube® Dental Handpiece Cleaner is considered non-toxic by inhalation based on a 4-hour inhalation study in rats (4-hour LC50 greater than 20 mg/L).

Component-Based Toxicology Information:

For a mixture of ethyl nonafluorobutyl ether and its isomer, a single positive response for cardiac sensitization was observed at an exposure level of 49,000 ppm. No adverse health effects are anticipated from normal handling and/or use.

SECTION 12: ECOLOGICAL INFORMATION* (non-mandatory)

SECTION 13: DISPOSAL CONSIDERATIONS* (non-mandatory)

SECTION 14: TRANSPORT INFORMATION* (non-mandatory)

SECTION 15: REGULATORY INFORMATION* (non-mandatory)

****Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200 (g) (2)).**

SECTION 16: OTHER INFORMATION

Additional Information: **None**
Date of Preparation: **September 26, 2014**
The following sections contain revisions or new statements: 1-16

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