

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** DPMS H0805B  
LGW Heavy Duty Solvent  
& Flux Remover

**Product Use:** Cleaning Solvent & Flux Remover  
for electronic assemblies.

**MANUFACTURER/DISTRIBUTOR:**

Miller-Stephenson Chemical  
55 Backus Ave.  
Danbury, Conn. 06810 USA  
(203) 743-4447

**Emergency Phone Number:**  
(800) 424-9300

## 2. HAZARDS IDENTIFICATION

**Hazard classification**

Serious Eye Damage/Irritation: Category 2A.  
Specific Target Organ Toxicity (central nervous system): Category 3.

**Label elements:**

**Signal word**

Warning

**Pictogram**



**Hazard Statements**

Causes serious eye irritation.  
May cause drowsiness or dizziness.

**Prevention Statements**

Avoid breathing dust/fume/gas/mist/vapors/spray.  
Wash skin thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/ attention.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
Store in a well-ventilated place. Keep container tightly closed.  
Dispose of contents/ container in accordance with applicable local/national/international regulations.

### 3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Isopropyl Alcohol	67-63-0	1 – 3
1,2-Trans-dichloroethylene	156-60-5	65 – 70
Methyl Nonafluorobutyl Ether	163702-07-6	1 – 5
Methyl Nonafluoroisobutyl Ether	163702-08-7	5 – 9
Ethyl Nonafluorobutyl Ether	163702-05-4	2 – 10
Ethyl Nonafluoroisobutyl Ether	163702-06-5	10 – 18

### 4. FIRST AID MEASURES

**Inhalation:** Remove patient to fresh air. Get medical attention you feel unwell.

**Eye:** Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**Skin:** Wash with soap and water. If you feel unwell, get medical attention.

**Oral:** Rinse mouth. Never give anything by mouth to an unconscious person. If you feel unwell, get medical attention.

**Most important symptoms and effects, both acute and delayed:** Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

### 5. FIRE FIGHTING MEASURES

**Flash Point:** None

**Method:** TCC

**Autoignition Temperature:** Not Determined

**Flammable Limits in Air, % by Vol.:** Not Determined

**Extinguishing Media:** Material will not burn. Use a fire fighting agent suitable for surrounding fire.

**Special hazards arising from the substance or mixture:** Exposure to extreme heat can give rise to thermal decomposition.

#### **Hazardous Decomposition or By-Products**

<b>Substance</b>	<b>Condition</b>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Hydrogen Fluoride	During Combustion

**Special Fire Fighting Instruction:** Exposure to extreme heat can give rise to thermal decomposition and Self-contained breathing apparatus (SCBA) and full protective equipment are required.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Keep away from sparks, flames, and extreme heat. Evacuate area. Ventilate area with fresh air. For large spill, or spill in confined areas, provide mechanical ventilation to disperse or exhaust vapors.

**Environmental precautions:** Avoid release to the environment. Contain spill. Prevent entry into sewer systems or bodies of water.

**Methods and material for containment and cleaning up:** Eliminate all potential ignition sources when cleaning up spill. Absorb spill with vermiculite or commercially available inorganic absorbent material. Collect as much of the spilled material as possible and place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## 7. HANDLING AND STORAGE

**Handling:** Use in a well-ventilated area to avoid breathing vapors. Do not breathe thermal decomposition products. Avoid contact with skin or eyes. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Avoid release in the environment. Avoid contact with oxidizing agents (chlorine, chromic acid etc.). Keep away from sparks, flames and extreme heat.

**Storage Conditions:** Store in well-ventilated area. Keep container tightly closed. Do not store sources of heat, in direct sunlight or where temperatures exceed 100F/38C. Store away from oxidizing agents and strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TWA ( ACGIH)</u>	<u>TWA (OSHA)</u>
Isopropyl Alcohol	200 ppm	400 ppm
1,2-Trans-Dichloroethylene	200 ppm	200 ppm
Methyl Nonafluorobutyl Ether	Not Established	Not Established
Methyl Nonafluoroisobutyl Ether	Not Established	Not Established
Ethyl Nonafluorobutyl Ether	Not Established	Not Established
Ethyl Nonafluoroisobutyl Ether	Not Established	Not Established

**Respiratory Protection:** Avoid breathing vapors, mists or spray. If necessary to keep exposure limits below permissible limits, use NIOSH approved respirators, such as an air-purifying respirator for organic vapors or a positive pressure supplied-air respirator if there is potential for over exposure from an uncontrolled release, exposure levels are not known or under any circumstances where air-purifying respirators may not provide adequate protection.

**Eye Protection:** Avoid eye contact. Use chemical goggles or safety glasses with side shields.

**Skin Protection:** Use gloves chemically resistant when there is prolonged exposure or frequently repeated contact. Glove selection should be based on the use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Gloves made of neoprene are recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** 113°F/45 °C

**Percent Volatile by Volume:** 100%

**Density:** 1.27 gm/cc at 70°F/21°C

**Vapor Pressure:** 360 mmHg

**Vapor Density (Air=1):** 2.26 at 77°F/25°C

**Solubility in H<sub>2</sub>O:** Slight

**pH Information:** N.A.

**Evaporation Rate (CC14=1):** N.A.

**Form:** Liquid

**Appearance:** Clear

**Color:** Clear-Colorless

**Odor:** Slight odor

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Material and Conditions to Avoid:** Heat, sparks and/or flames. Strong bases and strong oxidizing agents.

**Hazardous Decomposition products:** Carbon monoxide, Carbon dioxide, Hydrogen Chloride, Hydrogen-Fluoride, Perfluoroisobutylene (PFIB), toxic vapors, gases or particulate may be products of thermal decomposition. (See section 5 for hazardous decomposition products during combustion).

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Ethyl Nonafluorobutyl Ether

#### Acute Toxicity

**Dermal:** LD50 estimated to be 2,000 – 5,000 mg/kg

**Ingestion:** LD50 > 2,000 mg/kg, Rat

**Inhalation:** LC50 > 989 mg/l, 4 h (vapor), Rat

**Skin Corrosion/Irritation:** No significant irritation in Rabbits

**Serious Eye Damage/Irritation:** No significant irritation in Rabbits

**Skin Sensitization:** Not classified in Guinea pigs

**Respiratory Sensitization:** Data not available or insufficient for classification

**Germ Cell Mutagenicity:** In vitro and In vivo – Not Mutagenic

**Carcinogenicity:** Data not available or insufficient for classification

**Reproductive and/or Developmental Toxicity:** Not classified for development in rats by inhalation (Test results - NOAEL 260 mg/l, during gestation).

**STOT-single exposure:** In Dogs, some positive data, but the data is not sufficient for classification by inhalation (cardiac sensitization) (Test results – NOAEL 204 mg/l, exposure 17 mins). In Rats, not classified by inhalation (respiratory irritation) (Test results - NOAEL 989 mg/l, exposure 4 hours).

**STOT-repeated exposure:** In Rats, not classified by inhalation in liver, kidney and/or bladder, respiratory system, heart, endocrine system, gastrointestinal tract, bone marrow, hematopoietic system, immune system, nervous system (Test results – NOAEL 263.4 mg/l, exposure 4 weeks). In Rats, not classified by ingestion in blood, liver, kidney, and/or bladder, heart, bone marrow, endocrine, immune, hematopoietic, nervous, and respiratory systems, (Test results – NOAEL 1,000 mg/kg/day, exposure 28 days).

**Aspiration Hazard:** Data not available or insufficient for classification.

### Ethyl Nonafluoroisobutyl Ether

#### Acute Toxicity

**Dermal:** LD50 estimated to be 2,000 – 5,000 mg/kg

**Ingestion:** LD50 > 2,000 mg/kg, Rat

**Inhalation:** LC50 > 989 mg/l, 4 h (vapor), Rat

**Skin Corrosion/Irritation:** No significant irritation in Rabbits

**Serious Eye Damage/Irritation:** No significant irritation in Rabbits

**Skin Sensitization:** Not classified in Guinea pigs

**Respiratory Sensitization:** Data not available or insufficient for classification

**Germ Cell Mutagenicity:** In vitro and In vivo – Not Mutagenic

**Carcinogenicity:** Data not available or insufficient for classification

**Reproductive and/or Developmental Toxicity:** Not classified for development in rats by inhalation (Test results - NOAEL 260 mg/l, during gestation).

**STOT-single exposure:** In Dogs, some positive data, but the data is not sufficient for classification by inhalation (cardiac sensitization) (Test results – NOAEL 204 mg/l, exposure 17 mins). In Rats, not classified by inhalation (respiratory irritation) (Test results - NOAEL 989 mg/l, exposure 4 hours).

**STOT-repeated exposure:** In Rats, not classified by inhalation in liver, kidney and/or bladder, respiratory system, heart, endocrine system, gastrointestinal tract, bone marrow, hematopoietic system, immune system, nervous system (Test results – NOAEL 263.4 mg/l, exposure 4 weeks). In Rats, not classified by ingestion in blood, liver, kidney, and/or bladder, heart, bone marrow, endocrine, immune, hematopoietic, nervous, and respiratory systems, (Test results – NOAEL 1,000 mg/kg/day, exposure 28 days).

**Aspiration Hazard:** Data not available or insufficient for classification.

### **Methyl Nonafluorobutyl Ether**

#### **Acute Toxicity**

**Dermal:** LD50 Estimated to be > 5,000 mg/kg

**Ingestion:** LD50 > 5,000 mg/kg, Rat

**Inhalation:** LC50 > 1,000 mg/l, 4 h (vapor), Rat

**Skin Corrosion/Irritation:** No significant irritation in Rabbits.

**Serious Eye Damage/Irritation:** No significant irritation in Rabbits.

**Skin Sensitization:** Not classified in Guinea pigs.

**Respiratory Sensitization:** Data not available or insufficient for classification.

**Germ Cell Mutagenicity:** In vitro and In vivo – Not Mutagenic

**Carcinogenicity:** Data not available or insufficient for classification.

**Reproductive and/or Developmental Toxicity:** Not classified to female or male reproduction in rats by inhalation (Test results- NOAEL 129 mg/l, exposure 1 generation). Not classified for development in rats by inhalation (Test results - NOAEL 307 mg/l, during gestation).

**STOT-single exposure:** In Dogs, not classified by inhalation on the nervous system (Test results – LOAEL 913 mg/l, exposure 10 mins) and cardiac sensitization (Test results - NOAEL 913 mg/l, exposure 10 mins).

**STOT-repeated exposure:** In Rats, not classified by inhalation on bone, teeth, nails and/or hair (Test results – NOAEL 129 mg/l, exposure 11 weeks) or on liver, heart, skin, endocrine, immune, hematopoietic, nervous, respiratory systems, muscles, eyes, kidney, and/or bladder (Test results – NOAEL 155 mg/l, exposure 13 weeks). And in Rats, not classified by ingestion on liver, heart, endocrine, immune, hematopoietic, nervous, respiratory systems, eyes, kidney, and/or bladder (Test results – NOAEL 1000 mg/kg/day, exposure 28 days).

**Aspiration Hazard:** Data not available or insufficient for classification.

### **Methyl Nonafluoroisobutyl Ether**

#### **Acute Toxicity**

**Dermal:** LD50 Estimated to be > 5,000 mg/kg

**Ingestion:** LD50 > 5,000 mg/kg, Rat

**Inhalation:** LC50 > 1,000 mg/l, 4 h (vapor), Rat

**Skin Corrosion/Irritation:** No significant irritation in Rabbits.

**Serious Eye Damage/Irritation:** No significant irritation in Rabbits.

**Skin Sensitization:** Not classified in Guinea pigs.

**Respiratory Sensitization:** Data not available or insufficient for classification.

**Germ Cell Mutagenicity:** In vitro and In vivo – Not Mutagenic

**Carcinogenicity:** Data not available or insufficient for classification.

**Reproductive and/or Developmental Toxicity:** Not classified to female or male reproduction in rats by inhalation (Test results- NOAEL 129 mg/l, exposure 1 generation). Not classified for development in rats by inhalation (Test results - NOAEL 307 mg/l, during gestation).

**STOT-single exposure:** In Dogs, not classified by inhalation on the nervous system (Test results – LOAEL 913 mg/l, exposure 10 mins) and cardiac sensitization (Test results - NOAEL 913 mg/l, exposure 10 mins).

**STOT-repeated exposure:** In Rats, not classified by inhalation on bone, teeth, nails and/or hair (Test results – NOAEL 129 mg/l, exposure 11 weeks) or on liver, heart, skin, endocrine, immune, hematopoietic, nervous, respiratory systems, muscles, eyes, kidney, and/or bladder (Test results – NOAEL 155 mg/l, exposure 13 weeks). And in Rats, not classified by ingestion on liver, heart, endocrine, immune, hematopoietic, nervous, respiratory systems, eyes, kidney, and/or bladder (Test results – NOAEL 1000 mg/kg/day, exposure 28 days).

**Aspiration Hazard:** Data not available or insufficient for classification.

### Trans-1,2-Dichloroethylene

**Acute Oral:** LD50: 7902 mg/kg in rats. Method: OECD Test Guideline 420

**Acute Dermal:** LD50: > 5,000 mg/kg in rabbits. Method: OECD Test Guideline 402

**Acute Inhalation:** 4 h, LC50: 95.5 mg/l in rats. Test atmosphere: vapor. Method: OECD Test Guideline 403

**Skin Corrosion/Irritation:** Mild skin irritation in rabbits. Method: OECD Test Guideline 404

**Serious Eye Irritation/ Eye Irritation:** Eye irritation in rabbits. Reversing within 7 days. Method: OECD Test Guideline 405

**Skin Sensitization:** Not classified based on available information.

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** In vitro and In vivo – Not Mutagenic

**Carcinogenicity:** Not classified based on available information.

**Reproductive toxicity:** Not classified for development in rats by inhalation (Test results - NOAEL 24 mg/l, during organogenesis)

**STOT-single exposure:** May cause drowsiness and dizziness. In Rats by ingestion on central nervous system depression (Test results - LOAEL 4500 mg/kg)

**STOT-repeated exposure:** In Rats, not classified by ingestion on heart, kidney and/or bladder, immune and respiratory system (Test results – NOAEL 2000 mg/kg/day, exposure 14 weeks) and on blood/liver (Test results – NOAEL 125 mg/kg/day, exposure 14 weeks).

**Aspiration toxicity:** Not classified based on available information.

### Isopropyl Alcohol

#### Acute Toxicity

**Oral:** LD50, Rat, >5,000 mg/kg

**Skin Absorption:** LD50, Rat, >5,000 mg/kg

**Inhalation:** LC50, 4 h, Vapor, Rat, 72.6 mg/l

**Skin Corrosion/Irritation:** No skin irritation in rabbits.

**Serious Eye Damage/Irritation:** Irritation to eyes in Rabbits, reversing within 21 days.

**Skin Sensitization:** Not classified based on available information.

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** In vitro and In vivo - Not Mutagenic

**Carcinogenicity:** Negative based in inhalation testing in rats.

**Reproductive Toxicity:** Not classified based on available information.

**STOT- single exposure:** May cause drowsiness or dizziness

**STOT- repeated exposure:** Not classified based on available information.

**Aspiration toxicity:** Not classified based on available information.

## 12. ECOLOGICAL INFORMATION

### **Trans-1,2-Dichloroethylene**

96 hour LC50 in Lepomis marochirus (Bluegill sunfish): 135 mg/l. Based on data from similar materials.  
48 hour EC50 in Daphnia magna (Water flea): 220 mg/l. Method: EPA-660/3-75-009  
72 hour EC50 in Pseudokirchneriella subcapitata (Green algae): 36.36 mg/l. Method: OECD Test Guideline 201

**Biodegradability:** Not readily biodegradable. Method: OECD Test Guideline 301D

**Bioaccumulative potential:** Partition coefficient: n-octanol/water: log Pow: 2.06

### **Isopropyl Alcohol**

**Toxicity to fish:** LC50, fathead minnow (Pimephales promelas), 96 h: 9,640 mg/l

**Toxicity to daphnia and other aquatic invertebrates:** EC50, water flea (Daphnia magna), 24 h: >10,000 mg/l

**Toxicity to microorganisms:** EC50, (Pseudomonas putida), 16 h: >1,050 mg/l

**Persistence and degradability:** Rapidly degradable.

**Bioaccumulative potential:** Partition coefficient: n-octanol/water: log Pow: 0.05

**Mobility in soil:** No data available.

## 13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Remove to a permitted waste disposal facility.

## 14. TRANSPORT INFORMATION

### U.S. DOT

Not Regulated

### IATA

Not Regulated

### IMDG

Not Regulated

## 15. REGULATORY INFORMATION

### **U.S. Federal Regulations**

**TSCA:** All ingredients are listed in TSCA inventory.

**SARA 304 Extremely Hazardous Substances Reportable Quantity:** This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity:** This material does not contain any components with a section 302 EHS RQ.

**SARA 311/312 Hazards:** Serious eye damage or eye irritation. Specific target organ toxicity (single or repeated exposure).

**SARA 313:** This material contains the following component that is subject to reporting levels established by SARA Title III, Section 313: Isopropyl Alcohol (Propan-2-ol), 67-63-0; 1 - 3 % by wt.

**16. OTHER INFORMATION**

**NPCA-HMIS Ratings:**

Health - 2  
Flammability - 1  
Reactivity - 0  
Personal Protective rating to be supplied by user depending on the conditions.

**FOR INDUSTRIAL USE ONLY**

**REVISION DATE: DECEMBER 2021**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.