



## 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

#### **Symbols**

Exclamation mark

### **Pictograms**



### **Hazard Statements**

Causes serious eye irritation.

May cause drowsiness or dizziness.

### **Precautionary Statements**

#### **Prevention:**

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear eye/face protection.

Wash skin thoroughly after handling.

**Response:**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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.

Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage:** Store in a well-ventilated place. Keep the container tightly closed.

**Disposal:** Dispose of contents/container in accordance with applicable local/regional/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	2 – 8
Methyl Nonafluoroisobutyl Ether	163702-08-7	2 – 8
Ethyl Nonafluorobutyl Ether	163702-05-4	5 – 15
Ethyl Nonafluoroisobutyl Ether	163702-06-5	5 – 15

**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.

**Notes to Physician:** Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**5. FIRE FIGHTING MEASURES**

**Flash Point:** None

**Method:** TCC

**Extinguishing Media:** 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

**Special Fire Fighting Instruction:** When exposure to extreme heat gives rise to thermal decomposition, wear Self-contained breathing apparatus (SCBA) and full protective clothing/equipment are required.

## 6. ACCIDENTAL RELEASE MEASURES

Evacuate area. Ventilate area with fresh air. For large spill, or spill in confined areas, provide mechanical ventilation to disperse the vapors. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. 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.

## 7. HANDLING AND STORAGE

**Handling:** Use in a well-ventilated area to avoid breathing vapors. Do not breathe thermal decomposition products. Where ventilation is inadequate, use appropriate respiratory protection. 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.).

**Storage Conditions:** Store in well-ventilated area. Keep container tightly sealed. Do not store near sources of heat, in direct sunlight or where temperatures exceed 120°F/49°C. Store away from oxidizing agents and strong bases. Store away from food.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TWA (ACGIH)</u>	<u>TWA (OSHA)</u>	<u>TWA (AIHA)</u>
Isopropyl Alcohol	200 ppm	400 ppm	
1,2-Trans-Dichloroethylene	200 ppm	200 ppm	
Methyl Nonafluorobutyl Ether	Not Established	Not Established	750ppm
Methyl Nonafluoroisobutyl Ether	Not Established	Not Established	750 ppm
Ethyl Nonafluorobutyl Ether	Not Established	Not Established	200 ppm (3M)
Ethyl Nonafluoroisobutyl Ether	Not Established	Not Established	200 ppm (3M)

**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 supplied-air respirator if there is potential for over exposure from an uncontrolled release and exposure levels are not known. In poorly ventilated areas use an approved self-contained breathing apparatus.

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

**Skin Protection:** Avoid contact with skin. 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. Consult with a glove manufacturer for the selection of appropriate compatible glove. Gloves made of Fluoroelastomer 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:** Exposure to elevated temperatures. Strong bases and strong oxidizing agents.

**Decomposition:** Hydrogen Chloride, Hydrogen-Fluoride, Perfluoroisobutylene (PFIB) may be products of thermal decomposition. (See section 5 for hazardous decomposition products during combustion).

**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, Rat

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

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

**Skin Sensitization:** Not sensitizing 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).

**Single Dose Toxicity:** 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).

**Repeated Dose Toxicity:** 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, Rat

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

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

**Skin Sensitization:** Not sensitizing 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).

**Single Dose Toxicity:** 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).

**Repeated Dose Toxicity:** 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, Rat

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

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

**Skin Sensitization:** Not sensitizing 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).

**Single Dose Toxicity:** 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).

**Repeated Dose Toxicity:** 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, Rat

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

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

**Skin Sensitization:** Not sensitizing 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).

**Single Dose Toxicity:** 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).

**Repeated Dose Toxicity:** 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

**Acute Dermal:** LD50: > 5,000 mg/kg in rabbits

**Acute Inhalation:** 4 h, LC50: 95.4 mg/l in rats. Test atmosphere: vapor. Method: OECD Test Guideline 403

**Skin Corrosion/Irritation:** Mild skin irritation in rabbits

**Serious Eye Irritation/ Eye Irritation:** Mild eye irritation in rabbits. Reversing within 7 days.

**Skin Sensitization:** No data available

**Respiratory Sensitization:** No data available

**Germ Cell Mutagenicity:** Evidence does not support classification of a germ cell mutagen.

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

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

**STOT-single exposure:** May cause drowsiness and dizziness.

**STOT-repeated exposure:** No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.

**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

<u>Test Organism</u>	<u>Test Type</u>	<u>Result</u>
Water flea (Daphnia magna)	48 hours Effect Conc. 50%	>300 mg/l
Bluegill (Lepomis macrochirus)	96 hours Lethal Conc. 50%	>190 mg/l

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

**SARA 313:** Toxic Chemicals subject to the reporting requirements of the section and 40 CFR part 372 (EPCRA):  
1,2-Trans-dichloroethylene, 156-60-5: 65 - 70% 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: OCTOBER 2018**

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.