



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 eye irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Avoid breathing dust/fume/gas/mist/vapors/spray.
Use in a well-ventilated area.
Wear eye/face protection.
Wash thoroughly after handling.

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.

Hazards not otherwise classified: None

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 if necessary.

Eye: Flush with large amounts of water for at least 15 minutes, lifting eyelids until no evidence of the chemical remains. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

Skin: Remove contaminated clothing. Wash with soap and water. Get medical attention if necessary. Wash contaminated clothing and shoes before reuse.

Oral: Rinse mouth. Never give anything by mouth to an unconscious person. 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

Autoignition Temperature: 766°F/408°C

Flammable Limits in Air, % by Vol.: 5.9% volume LEL
14.5% volume UEL

Autodecomposition Temperature: N.A.

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

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

Special Fire Fighting Instruction: When exposure to extreme heat can give rise to thermal decomposition and 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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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. Vapors are heavier than air and accumulate in low areas. Use only with adequate ventilation. 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 or pharmaceuticals.

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 Nonfluorobutyl Ether	Not Established	Not Established	750ppm
Methyl Nonfluoroisobutyl Ether	Not Established	Not Established	750 ppm
Ethyl Nonfluorobutyl Ether	Not Established	Not Established	200 ppm (3M)
Ethyl Nonfluoroisobutyl 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. 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 to this material when prolonged or frequently repeated contact occurs. 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 H₂O: Slight
pH Information: N.A.	Evaporation Rate (CC14=1): N.A.
Form: Liquid	Appearance: Clear
Color: Clear-Colorless	Odor: Slight alcohol odor

10. STABILITY AND REACTIVITY

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

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

Sensitization Skin: Not sensitizing in Guinea pigs

Sensitization Respiratory: 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 toxic to female or male reproduction in rats. Some positive developmental data exist, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: Blood, liver, kidney and/or bladder, respiratory system, but data not sufficient for classification.

Single Dose Toxicity: In Dogs, some positive data exists for cardiac sensitization, but not sufficient for classification.

Aspiration Hazard: Not an aspiration hazard

Ethyl Nonafluoroisobutyl Ether

Acute Toxicity

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

Sensitization Skin: Not sensitizing in Guinea pigs

Sensitization Respiratory: 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 toxic to female or male reproduction in rats. Some positive developmental data exist, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: Blood, liver, kidney and/or bladder, respiratory system, but data not sufficient for classification.

Single Dose Toxicity: In Dogs, some positive data exists for cardiac sensitization, but not sufficient for classification.

Aspiration Hazard: Not an aspiration hazard

Methyl Nonafluorobutyl Ether

Acute Toxicity

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

Sensitization Skin: Not sensitizing in Guinea pigs

Sensitization Respiratory: 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 toxic to female or male reproduction in rats. Some positive developmental data exist, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: Liver, bone, nails and/or hair and Endocrine System, but not sufficient for classification.

Single Dose Toxicity: In Dogs, some positive data exists on the nervous system, but not sufficient for classification.

Aspiration Hazard: Not an aspiration hazard

Methyl Nonafluoroisobutyl Ether

Acute Toxicity

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

Sensitization Skin: Not sensitizing in Guinea pigs

Sensitization Respiratory: 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 toxic to female or male reproduction in rats. Some positive developmental data exist, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: Liver, bone, nails and/or hair and Endocrine System, but not sufficient for classification.

Single Dose Toxicity: In Dogs, some positive data exists on the nervous system, but not sufficient for classification.

Aspiration Hazard: Not an aspiration hazard

Trans-1,2-Dichloroethylene

Oral: LD50: 7902 mg/kg in rats

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

Inhalation: 4 hour LC50: 95.4 mg/l in rats

Target Organs: Central nervous system depression

Skin Corrosion/Irritation: Minimal irritation in Rabbits

Serious Eye Damage/Irritation: Moderate irritation in Rabbits

Sensitization Skin: Data not available or insufficient for classification

Sensitization Respiratory: 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 toxic to female or male reproduction in rats. Some positive developmental data exist, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: kidney and/or bladder, blood and liver, but not sufficient for classification.

Single Dose Toxicity: In Human, some positive data exists causing central nervous system depression and respiratory irritation, but not sufficient for classification.

Aspiration Hazard: Not an aspiration hazard

Isopropyl Alcohol

Acute Toxicity

Ingestion: LD50, Rat, 4,710 mg/l

Skin Absorption: LD50, Rabbit, 12,870 mg/kg

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

Skin Corrosion/Irritation: No significant irritation in multiple animal species.

Serious Eye Damage/Irritation: Serious eye irritant in Rabbits

Sensitization Skin: Not sensitizing in Guinea pigs

Sensitization Respiratory: Data not available or insufficient for classification

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

Carcinogenicity: Some positive data exists with inhalation in rats, but the data is not sufficient for classification.

Reproductive and/or Developmental Toxicity: Some positive developmental data exist in rats, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: bladder and kidney, but not sufficient for classification.

Single Dose Toxicity: In Humans, some positive data exists on the nervous and respiratory systems, but not sufficient for classification. May cause drowsiness or dizziness, if ingested.

Aspiration Hazard: Not an aspiration hazard

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 313 Regulated Chemicals: Trans-dichloroethylene

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: APRIL 2014

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.