



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-738
MS-738M
DPMS U1118A1
Contact Re-Nu & Lube

Product Use: Lubricate & clean contacts.

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, single exposure: Category 3

Label elements:

Signal word

Warning

Pictogram



Hazard Statements

Causes serious eye irritation.
May cause drowsiness or dizziness.

Prevention Statements

Do not pierce or burn, even after use.
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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
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.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F
Dispose of contents/ container to an approved waste disposal plant.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2-Tetrafluoroethane	811-97-2	18 – 22
Isopropyl Alcohol	67-63-0	8 – 12
Methyl Nonafluorobutyl Ether	163702-07-6	6 – 32
Methyl Nonafluoroisobutyl Ether	163702-08-7	37 – 64

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air. Get medical attention if symptoms occur.

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 present and easy to do. Continue to rinse. Get medical attention if symptoms occur.

Skin: Wash skin with plenty of water for at least 15 minutes. Wash contaminated clothing before use. Get medical attention if symptoms occur.

Oral: DO NOT induce vomiting without medical advice. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.

Most important symptoms/effects, acute and delayed: Eye contact may provoke the following symptoms: Irritation. Causes serious eye irritation. May cause drowsiness or dizziness.

5. FIRE FIGHTING MEASURES

Flammability: This product is not flammable. **Test Method:** Ignition distance test and Enclosed space ignition test

Suitable Extinguishing Media: Alcohol resistant foam, Dry chemical, Carbon dioxide (CO2)

Unsuitable extinguishing media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special hazards: The product is not flammable but may burn at high temperatures. Exposure to extreme heat can give rise to thermal decomposition of Carbon oxides and Hydrogen fluoride.

Special Fire Fighting Instruction: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

Further information: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate personnel to safe areas. Cool containers with water spray or fog. Do not allow run-off from the fighting the fire to enter drains or water sources. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate personnel to safe area. In case of insufficient ventilation, wear suitable respiratory equipment. Use appropriate personal protection equipment.

Environmental precautions: Prevent material from entering sewers, waterways, or low areas. Should not be released into the environment. Do not allow contact with soil, surface or ground water.

Methods and material for containment and cleaning up: Contain spillage, and then collect with inert material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

7. HANDLING AND STORAGE

Handling: Use in a well-ventilated area to avoid breathing vapors. Use only with adequate ventilation. Use appropriate respiratory protection when ventilations is inadequate. When using do not eat, drink, or smoke. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling.

Storage Conditions: Store in a clean, dry area. Do not store sources of heat, in direct sunlight or where temperatures exceed 120F/49C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Respiratory Protection: Avoid breathing vapors, mists or spray. Use with adequate ventilation especially for enclosed or low places. Use NIOSH approved respirators, such as an air-purifying respirator with organic cartridges. 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 impervious to this material when prolonged or frequently repeated contact occurs. Wash hands before breaks and at the end of workday.

General Hygiene: Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N.A.

Percent Volatile by Volume: 99%

Density: 1.41 gm/cc at 70°F/21°C

Vapor Pressure: 207 mmHg

Vapor Density (Air=1): >1

Solubility in H₂O: Slight (less than 10%)

pH Information: N.A.

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

Form: Aerosol

Appearance: Clear

Color: Clear-Colorless

Odor: Slight alcohol

10. STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and storage conditions.

Chemical stability: Stable if stored and applied as directed.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Material and Conditions to Avoid: Direct sunlight, heat or where temperatures exceed 122°F/50°C. Strong acids, Strong bases and Strong oxidizers.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Carbon oxides, Hydrogen fluoride, Perfluoroisobutylene (PFIB), Toxic vapors, Toxic gases and Toxic fumes.

11. TOXICOLOGICAL INFORMATION

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.

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 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, gastrointestinal tract, 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.

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 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, gastrointestinal tract, 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.

Isopropyl Alcohol

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

Acute Dermal: LD50, Rabbit, > 5,000 mg/kg

Acute Inhalation (vapor): 6 hour LC50, Rat > 25 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: Buehler Test (skin contact) is negative in Guinea pig. Method OECD Test Guideline 406

Respiratory Sensitization: Not classified based on available information.

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

Carcinogenicity: Negative in rats exposed 104 weeks by inhalation (vapor). Method: OECD Test Guideline 451

Reproductive Toxicity: Negative in rats by ingestion based on Two-generation reproduction toxicity study and Embryo-fetal development.

STOT- single exposure: May cause drowsiness or dizziness

STOT- repeated exposure: NOAEL, Rat exposed 104 weeks by inhalation (vapor): 12.5 mg/l

Aspiration toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

Isopropyl Alcohol

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

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

Toxicity to microorganisms: 16 hour EC50 in Pseudomonas putida: >1,050 mg/l

Persistence and degradability: Rapidly degradable. BOD: 1.19 (BOD5)COD: 2.23BOD/COD: 53%

Bioaccumulative potential: Partition coefficient: n-octanol/water: log Pow: 0.05
Mobility in soil: No data available.

13. DISPOSAL CONSIDERATIONS

If recycling is not practicable, dispose of in compliance with local regulations. Remove to a permitted waste disposal facility. The product should not be allowed to enter drains, water courses or the soil.

14. TRANSPORT INFORMATION

U.S. DOT

Limited Quantity

IATA

Proper Shipping Name: Aerosols, Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

IMDG

Proper Shipping Name: Aerosols Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed on the TSCA inventory.

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: MARCH 2023

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.