

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** MS-720  
MS-720M  
DPMS T0120A1  
Precision Cleaning Agent

**Product Use:** Cleaning Solvent

### **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**

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

### **Label elements:**

#### **Signal word**

Warning

#### **Pictograms**



### **Hazardous warnings**

Flammable aerosol  
Causes serious eye irritation.  
May cause drowsiness or dizziness.

### **Precautionary Statements**

Keep away from heat/sparks/open flames/hot surfaces – No smoking.

Do not spray on an open flame or other ignition source.

Do not pierce or burn, even after use.

Avoid breathing fumes/gas/vapor/spray.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/eye protection/face protection.

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.

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**

<b><u>Material (s)</u></b>	<b><u>CAS No.</u></b>	<b><u>Approximate %</u></b>
1,1,1,2-Tetrafluoroethane	811-97-2	18 – 22
Isopropyl Alcohol	67-63-0	8 – 12
Ethyl Nonafluorobutyl Ether	163702-05-4	5 – 32
Ethyl Nonafluoroisobutyl Ether	163702-06-5	38 – 65

### **4. FIRST AID MEASURES**

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

**Skin:** Wash skin with water and soap as a precaution after contact. Get medical attention if symptoms occur.

**Oral:** DO NOT induce vomiting without medical advice. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

### **5. FIRE FIGHTING MEASURES**

**Flammability:** This product is flammable.

**Test Method:** Ignition distance test and Enclosed space ignition test

**Suitable Extinguishing Media:** Water spray, 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:** Vapors may form explosive mixture with air. Exposure to combustion products may be hazardous to health. Hazardous combustion products: Hydrogen fluoride, Carbon oxides.

**Special Fire Fighting Instruction:** In the event of fire, use personal protective equipment. Wear self-contained breathing apparatus, if necessary. 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. 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. Use appropriate personal protection equipment.

**Environmental precautions:** Prevent material from entering sewers, waterways, or low areas. Should not be released into the environment. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**Spill Cleanup:** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container for disposal according to local regulations.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin, or clothing. Do not inhale vapor or mist. Wash thoroughly after handling. Keep away from heat, sparks, and open flame. Take measures to prevent the buildup of electrostatic charge. Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential.

**Storage Conditions:** Store in a clean, cool and dry area that is well-ventilated. Do not store sources of ignition or heat, in direct sunlight or where temperatures exceed 120°F/49°C. Do not pierce or burn, even after use.

## 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
Ethyl Nonafluorobutyl Ether	Not Established	Not Established
Ethyl Nonafluoroisobutyl Ether	Not Established	Not Established

**Respiratory Protection:** General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

**Eye Protection:** Avoid eye contact. Wear safety glasses or coverall chemical splash goggles.

**Skin Protection:** Use gloves impervious to this material when prolonged or frequently repeated contact occurs. For special applications, we recommend clarifying the resistance to chemicals of the protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** N.A.

**Percent Volatile by Volume:** 100%

**Density:** 1.25 gm/cc at 70°F/21°C

**Vapor Pressure:** 105 mmHg at 77°F/25°C

**Vapor Density (Air=1):** N.A.

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

**pH Information:** N.A.

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

**Form:** Aerosol

**Appearance:** Clear

**Color:** Clear-Colorless

**Odor:** Slight alcohol

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Hazardous polymerization will not occur

**Material and Conditions to Avoid:** Heat, flames, sparks. Extreme temperatures and direct sunlight. 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).

## 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 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).

**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 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).

**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.

## **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): 10,000 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

Recover and reclaim or recycle, if practical. Comply with Federal, State/Provincial and 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, Flammable

**Hazard Class:** 2.1

**Identification No.** UN1950

**Packing Group:** None

### IMDG

**Proper Shipping Name:** Aerosols, Flammable

**Hazard Class:** 2.1

**Identification No.** UN1950

**Packing Group:** None

## 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 section 304 EHS RQ.

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

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

**SARA 313 Regulated Chemicals:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **U.S. State Regulations**

**California Proposition 65:** This product does not contain chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

### **16. OTHER INFORMATION**

#### **NPCA-HMIS Ratings:**

Health	- 2
Flammability	- 2
Physical Hazards	- 3

Personal Protective rating to be supplied by user depending on the conditions.

#### **FOR INDUSTRIAL USE ONLY**

**REVISION DATE: May 15, 2025**

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.