



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.

Avoid breathing fumes/gas/vapor/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/eye protection/face protection.

Wash skin thoroughly after handling.

Pressurized container: Do not pierce or burn, even after use.

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

<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
Ethyl Nonafluorobutyl Ether	163702-05-4	14 – 56
Ethyl Nonafluoroisobutyl Ether	163702-06-5	14 – 56

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air and keep at rest comfortable for breathing. If not breathing, give artificial respiration. Give oxygen as necessary, if qualified personnel are available. 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 present and easy to do. Continue to rinse. Get medical attention if irritation develops and persists.

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

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

Most important symptoms/effects, acute and delayed: Causes serious eye irritation.

5. FIRE FIGHTING MEASURES

Flammability: This product is 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: Hazardous reaction will not occur under normal conditions. Keep containers cool by spraying with water.

Special Fire Fighting Instruction: In the event of fire, wear self-contained breathing apparatus and other protective clothing to prevent contact with the skin and eyes. Exposure to decomposition products may be a hazard to health.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel): Use personal protective equipment. Avoid breathing vapors, mist or gas. Evacuate personnel to safe area. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors accumulate in low areas. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental precautions: If containers rupture, prevent material from entering sewers, waterways, or low areas. Should not be released into the environment.

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.

Storage Conditions: Store in a clean, cool and dry area that is well-ventilated. Do not store sources of 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

Use only with adequate ventilation.

Vapors are heavier than air posing a hazard of asphyxia if they are trapped in enclosed or low places. Mechanical ventilation should be used in these areas.

Eye Protection: Wear safety glasses or coverall chemical splash goggles.

Respiratory Protection: Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH approved respiratory protection.

Skin Protection: Where there is potential for skin contact have available and wear as appropriate impervious gloves.

Do not smoke in area. Wash after handling. Do not eat or drink when using the material.

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 H₂O: Insoluble

pH Information: Neutral

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

Form: Liquid

Appearance: Clear

Color: Clear-Colorless

Odor: Slight alcohol

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Heat, sparks, and flames. Exposure to elevated temperatures, direct sunlight.

Incompatible Materials: Avoid contact with: Strong acids, Strong bases, and Strong oxidizers.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Hydrogen fluoride, Perfluoroisobutylene (PFIB), Toxic oxides of carbon.

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

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Aspiration Hazard: Data not available or insufficient for classification.

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

Isopropyl Alcohol:

Toxicity to fish: LC50, fathead minnow (*Pimephales promelas*), 96 h: 10,000 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

Recover and reclaim or recycle, if practical. Comply with Federal, State/Provincial and Local regulations. Remove to a permitted waste disposal facility.

14. TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name: Consumer Commodity

Hazard Class: ORM-D

Identification No. None

Packing Group: None

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/TITLE III HAZARD CATEGORIES:

Product Hazard Categories:

Acute Health - Yes

Chronic Health - No

Fire Hazard - Yes

Reactivity Hazard - No

Pressure Hazard - Yes

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health	- 2
Flammability	- 2
Reactivity	- 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: NOVEMBER 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.