



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-722
DPMS T0120B1
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

Serious Eye Damage/Irritation: Category 2A.

Label elements:

Signal word

Warning

Pictogram



Hazard Statements

Causes serious eye irritation.

Prevention Statements

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

Wash thoroughly after handling.

Use only in a well-ventilated area.

Wear eye protection, protective clothing and protective gloves

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.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/ container to an approved waste disposal plant.

Other Hazards

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Exposure may aggravate those with pre-existing eye, skin or respiratory conditions. Prolonged skin contact may defat the skin and produce dermatitis. Upon thermal decomposition, this material produces extremely toxic vapors, gases and particulates. Misuse or intentional inhalation abuse may lead to death without warning.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Isopropyl Alcohol	67-63-0	10 – 14
Ethyl Nonafluorobutyl Ether	163702-05-4	17 – 70
Ethyl Nonafluoroisobutyl Ether	163702-06-5	17 – 70

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air. If not breathing, give artificial respiration. Give oxygen as necessary, if qualified personnel is 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. Get medical attention. Remove contact lenses, if present and easy to do. Continue to rinse.

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

Oral: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

Most important symptoms/effects, acute and delayed: Causes serious eye irritation. May cause skin irritation. Repeated exposure may cause skin dryness and cracking.

5. FIRE FIGHTING MEASURES

Flammability: This product is not flammable. Does not flash using TCC.

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. Product is not explosive. Hazardous reaction will not occur under normal conditions.

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/tanks with water spray or fog. Do not allow run-off from the fire fighting 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

Safeguards (Personnel): Evacuate personnel to safe area. Ventilate area, especially low or enclosed places where heavy vapors might collect. 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.

Spill Cleanup: 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. Vapors are heavier than air and accumulate in low areas. 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 tightly sealed in a clean, dry place, and well ventilated place. Do not store in temperatures that exceed 125°F/52°C. Avoid strong acids, strong bases and strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>STEL (ACGIH)</u>	<u>PEL (OSHA)</u>	<u>TWA (3M)</u> As total isomers
Isopropyl Alcohol	400 ppm	400 ppm	
Ethyl Nonafluorobutyl Ether	Not Established	Not Established	200 ppm
Ethyl Nonafluoroisobutyl Ether	Not Established	Not Established	200 ppm

Respiratory Protection: Avoid breathing vapors, mists or spray. Use with sufficient ventilation especially for enclosed or low places. Vapors are heavier than air and can cause suffocation by reducing oxygen. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 132°F – 147°F /55°C – 64°C

Percent Volatile by Volume: 100%

Density: 1.30 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: Ethereal

10. STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and storage conditions.

Chemical stability: No decomposition if stored and applied as directed.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Material and Conditions to Avoid: Direct sunlight. Extremely high and low temperatures. 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 vapors, Toxic gases and Toxic fumes.

11. TOXICOLOGICAL INFORMATION

Animal Data

Ethyl Nonafluorobutyl Ether Ethyl Nonafluoroisobutyl Ether

Acute Inhalation Lethal Concentration: LD50 > 989 mg/l (rat, 4-hour)

Oral Toxicity: LD50 > 2000 mg/kg in 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

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

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

Aspiration Hazard: Data not available or insufficient for classification

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

Aquatic Toxicity:

Ethyl Nonafluorobutyl Ether Ethyl Nonafluoroisobutyl Ether

<u>Test Organism</u>	<u>Test Type</u>	<u>Result</u>
Fathead Minnow (Pimephales promelas)	96 hours LC 50	> 2.75 mg/L
Green algae (Selenastrum capricornutum)	96 hours Effect Conc. 50%	> 2.32 mg/L
Water flea (Daphnia magna)	48 hours Effect Conc. 50%	> 2.55 mg/L

Isopropyl Alcohol:

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, fathead minnow (Pimephales promelas), flow-through, 96 h: 9,640 - 10,400 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea Daphnia magna, 48 h, immobilization: 7,550 - 13,299 mg/l

Aquatic Plant Toxicity

EC50, alga Scenedesmus sp., Growth rate inhibition, 72 h: > 1,000 mg/l

Toxicity to Micro-organisms

EC50; activated sludge, respiration inhibition: > 1,000 mg/l

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

Not Regulated

IATA

Not Regulated

IMDG

Not Regulated

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in 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: APRIL 2015

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.