1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-762
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
Wash skin thoroughly after handling.
Wear eye protection/face protection.
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
In use, may form flammable/explosive vapor-air mixture. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Misuse or intentional inhalation abuse may lead to death without warning symptoms, due to cardiac effects. Rapid evaporation of the product may cause frostbite.

3. INGREDIENTS

Material (s)	CAS No.	Approximate %
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	89 - 91
Isopropyl Alcohol	67-63-0	9 - 11

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.

Skin: Wash skin with water and soap as 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.

Most important symptoms/effects, acute and delayed: May cause cardiac arrhythmia.
Skin contact may provoke the following symptoms: Dermatitis, Irritation, Discomfort, Pain, Redness, Rash, Itching, Swelling of tissue, Superficial burning sensation
Eye contact may provoke the following symptoms: Pain, Tearing, Swelling of tissue, Redness, Impairment of vision
Inhalation may provoke the following symptoms: Unconsciousness, Drowsiness, Lack of coordination, Confusion, Dizziness, Central nervous system depression
Effects of breathing high concentrations of vapor may include: Tiredness, Drowsiness, Central nervous system effects, Convulsions
Adverse effects from repeated inhalation may include central nervous system effects
Aspiration may cause pulmonary edema and pneumonitis.
Causes serious eye irritation.

Notes to Physician: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

5. FIRE FIGHTING MEASURES

Flash Point: Does not flash **Method:** TCC

Upper Explosion limit, % by Vol.: 11.0% **Lower Explosion limit, % by Vol.:** 5.0%

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

Unsuitable extinguishing media: None known.

Special hazards: Vapors may form explosive mixture with air. Exposure to combustion products may be hazardous to health.
Hazardous combustion products: Hydrogen fluoride, Carbonyl fluoride, Carbon oxides.

Special Fire Fighting Instruction: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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. 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 personal protective equipment.

Environmental precautions: If containers rupture, prevent material from entering sewers, waterways, or low areas. Avoid 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 inert absorbent 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 only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential. Do not eat, drink, or smoke. Do not swallow. 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. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not store in temperatures that exceed 115^{O}F/46^{O}C, because the containers could leak or rupture from pressure and expansion. Take care to prevent spills, waste and minimize release to the environment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	STEL (ACGIH)	TWA (OSHA)
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	None Established	None Established
Isopropyl Alcohol	400 ppm	400 ppm

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. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. 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. Use chemical goggles or safety glasses with side shields.

Skin Protection: Avoid contact with skin. Use gloves impervious to this material (eg. Viton) 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: 129°F/54°C

Percent Volatile by Volume: 100

Density: 1.42 g/cc @ 77°F/25°C

Vapor Pressure: 238 mmHg @ 77°F/25°C

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

Solubility in H_2O: Partly miscible with water

pH Information: Neutral

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

Form: Liquid

Appearance: Clear & Colorless

Color: Colorless

Odor: Slight ether-like

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Vapors may form flammable mixture with air. In use may form flammable/explosive vapor-air mixture.

Material and Conditions to Avoid: None known.

Decomposition: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

1,1,1,2,2,3,4,5,5,5-Decafluoropentane

Information on likely routes of exposure: Inhalation, Skin contact, Ingestion, Eye contact
Acute Oral: LD50: > 5000 mg/kg in rats
Acute Inhalation (vapor): 4 hour LC50: 114 mg/l in rats
Acute Dermal: LD50: > 5000 mg/kg in rats
Skin Corrosion/Irritation: No skin irritation in rabbits.
Serious Eye Irritation/ Eye Irritation: No eye irritation in rabbits.
Skin Sensitization: No skin sensitization in Guinea pigs.
Respiratory Sensitization: Not classified based on available information.
Germ Cell Mutagenicity: Weight of evidence does not support classification as a germ cell mutagen.
Carcinogenicity: Not classified based on available information.
Reproductive toxicity: Weight of evidence does not support classification as a germ cell mutagen.
STOT-single exposure: Not classified based on available information.
STOT-repeated exposure: No significant health effects observed in animals at concentrations of 1mg/l/6h/d or less.
Aspiration toxicity: Not classified based on available information.

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

1,1,1,2,2,3,4,5,5,5-Decafluoropentane:

96 hour LC50 in Oncorhynchus mykiss (rainbow trout): 13.9 mg/l
96 hour LC50 in Pimephales promelas (fathead minnow): 27.2 mg/1
96 hour LC50 in Danio rerio (zebra fish): 13 mg/l
48 hour LC50 in Daphnia magna (Water flea): 11.7 mg/l
72 hour EC50 in Pseudokirchneriella subcapitata (Green algae): >120 mg/l
21 days NOEC in Daphnia magna (Water flea): 1.72 mg/l

Biodegradability: Not readily biodegradable.
Bioaccumulative potential: Bioaccumulation is unlikely.
Mobility in soil: No data available

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%
Bioaccumlative 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
Not Regulated

IATA
Not Regulated

IMDG
Not Regulated

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in TSCA inventory.

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (CAS# 138495-42-8) - The United States Environmental Protection Agency has established a Significant New Use Rule (SNUR; 40 CFR 721.5645) for this product. This product contains one or more substances which requires export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D.

CERCLA Reportable Quantity: This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.

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

SARA 311/312 Hazards: Serious eye damage or eye irritation.

SARA 313: Not regulated.

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

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health	- 2
Flammability	- 0
Physical Hazard	- 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: June 16, 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.