



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-114D
Conformal Coating Stripper

Product Use: Conformal Coating Stripper

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

Acute toxicity (Oral): Category 4
Acute toxicity (Inhalation): Category 4
Skin Irritation: Category 2
Eye Irritation: Category 2A
Reproductive toxicity: Category 1B
Specific Target Organ Toxicity (single exposure): Category 1
Aquatic Hazard (Chronic): Category 3

Label elements:

Signal word

Danger

Pictograms



Hazard Statements

Harmful if swallowed
Harmful if inhaled.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May damage fertility or the unborn child.
Causes damage to organs (Central Nervous System, Eyes).
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Avoid breathing mist/vapors/spray.
Wash skin thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
Do NOT induce vomiting.
Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water. If irritation occurs: Get medical attention.
IF INHALED: Remove victim to fresh air and keep 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 attention.
If exposed or concerned: Call a poison center/doctor.
Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Dispose of contents/ container in accordance with local, regional, national, and international regulations.

Other Hazards

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Prolonged skin contact may defat the skin and produce dermatitis. Effects of breathing high concentrations of vapor may include: May cause cardiac arrhythmia. Misuse or intentional inhalation abuse may lead to death without warning.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee)	138495-42-8	22 - 30
Trans,1,2-Dichloroethylene	156-60-5	45 - 50
Methanol	67-56-1	4 - 10
N-Methyl-2-Pyrrolidone	872-50-4	18 - 22

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: Dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea); irritation of nose, throat and airways; confusion. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May damage fertility or the unborn child. Do not give adrenaline or similar drugs. 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

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. Gas/vapor are heavier than air. May accumulate in confined spaces, particularly at or below ground level. Product is not explosive. Containers may rupture when exposed to excessive heat. Hazardous reactions will not occur under normal conditions.

Special Fire Fighting Instruction: Do not enter area without personal protective equipment. Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus, if necessary. Use water spray for cooling exposed containers. Do not allow run-off from fire-fighting to enter drains or water sources.

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.

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: Avoid exposure. 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 ventilation is inadequate. When using do not eat, drink, or smoke. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Container is hazardous when empty.

Storage Conditions: Store tightly sealed in a clean, dry place that is well ventilated. Do not store in temperatures that exceed 125°F/52°C. Avoid reducing agents, strong acids, strong bases and strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TLV (ACGIH)</u>	<u>PEL (OSHA)</u>
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	Not Established	Not Established
Trans,1,2-Dichloroethylene	200 ppm, TWA	200 ppm, 8 Hr. TWA
Methanol	200 ppm, TWA	200 ppm, 8 Hr, TWA
N-Methyl-2-Pyrrolidone	Not Established	Not Established

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/protective clothing that impervious to this material when prolonged or frequently repeated contact occurs.

Prevention of Swallowing: Do not eat or drink when using this product. Wash exposed areas thoroughly with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: (Initial): 118°F/48°C

Percent Volatile by Volume: 100%

Density: 1.25 g/cc at 77°F/25°C

Vapor Pressure: 214 mm Hg at 68°F/20°C

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

Solubility in H₂O : N.A.

pH Information: Neutral

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

Form: Liquid

Appearance: Clear

Color: Colorless

Odor: Ethereal

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical stability: Stable at normal ambient conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Material and Conditions to Avoid: Direct sunlight. Extremely high and low temperatures. Reducing agents, Strong acids, Strong bases and Strong oxidizers.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Carbon oxides (CO, CO₂), Hydrogen Chloride, Hydrogen fluoride, Carbonyl fluoride, Fluorocarbons, and Nitrogen compounds.

11. TOXICOLOGICAL INFORMATION

Animal Data

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee)

Inhalation: 4 hour LC50: 114mg/l in rats, Central nervous system effects, Convulsions

Oral: LD50: > 5,000 mg/kg in rats

Dermal: LD50: > 5,000 mg/kg in rabbits

Skin Irritation: No skin irritation, rabbit

Eye Irritation: No eye irritation, rabbit

Skin Sensitization: Did not cause sensitization on laboratory animals., guinea pig

Repeated dose toxicity: Inhalation, rat

No toxicologically significant effects were found.

Reproductive toxicity: Animal testing showed no reproductive toxicity.

Teratogenicity: Animal testing showed no developmental toxicity.

Trans-1,2-Dichloroethylene

Oral: LD50: 7902 mg/kg in rats

Dermal: LD50: > 5,000 mg/kg in rabbits

Inhalation: 4 hour LC50: 95.4 mg/l in rats

Target Organs: Central nervous system, narcosis

Skin irritation: Mild skin irritation in rabbits

Eye irritation: Mild eye irritation in rabbits

Repeated dose toxicity: Inhalation, 90 days in rats: No toxicologically significant effects were found.

Oral, 90 days in rats: No toxicologically significant effects were found.

Mutagenicity: Did not cause genetic damage in animals.

Test on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity: Animal testing showed no reproductive toxicity.

Teratogenicity: Animal testing showed no developmental toxicity.

Methanol

Inhalation Acute toxicity: 3mg/l, animals (unspecified species)

Target Organs: Central nervous system, Eye, Central nervous system effects, narcosis, eye effects.

Dermal Acute toxicity: 300 mg/kg in rabbits (unspecified species)

Target Organs: Central nervous system, Eye, Central nervous system effects, narcosis, eye effects.

Oral Acute Toxicity: 100 mg/kg, animals (unspecified species)

Target Organs: Central nervous system, Eye, Central nervous system effects: narcosis, eye effects

Skin irritation: Slight or no irritation, Rabbit

Eye irritation: Slight irritation, Rabbit

Skin sensitization: Did not cause sensitization on laboratory animals, Guinea pig

Carcinogenicity: Not classifiable as a human carcinogen. Overall weight evidence indicates that the substance is not carcinogenic.

Mutagenicity: Animal testing did not show any mutagenic effects.

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Overall weight of evidence indicates that the substance is not mutagenic.

Did not cause genetic damage in animals.

Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.

Genetic damage in cultured bacterial cells was observed in some laboratory tests but not in others.

Reproductive Toxicity: No toxicity or reproduction. Evidence suggests the substance is not a reproductive toxin in animals.

Teratogenicity: Evidence suggests the substance is not a developmental toxin in animals.

N-Methyl-2-Pyrrolidone

Acute Toxicity:

Oral: LD50: 4,150 mg/kg in rats

Dermal: LD50: 8,000 mg/kg in rabbits

Inhalation: 4 hours LC50: >5.1 mg/l in rats

Skin: May cause skin irritation and/or dermatitis. Repeated exposure may cause skin dryness and cracking. Not a sensitizer.

Eye: Causes serious eye irritation. Irritation to eyes, reversing 7 to 21 days.

Mutagenicity: Non-mutagenic in various in-vitro and in-vivo assays.

Carcinogenicity: Not classified based on available information.

Reproductive Toxicity: May damage fertility or the unborn child. Clear evidence of adverse effects on sexual function and fertility, and/or on development based on animal experiments.

Specific Target Organ Toxicity – single exposure: Nose: Inhalation: May cause respiratory irritation.

Specific Target Organ Toxicity – repeated exposure: Not classified based on available information.

No observed adverse effect level: 169 mg/kg in rats by ingestion for 90 days.

No observed adverse effect level: 0.5 mg/l in rats by inhalation for 90 days,

No observed adverse effect level: 826 mg/kg by skin contact for 28 days.

Aspiration toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee):

96 hour LC50 in fathead minnows: 27.2 mg/L
96 hour LC50 in rainbow trout: 13.9 mg/L
48 hour LC50 in Daphnia magna: 11.7 mg/L
72 hour EC50 in green algae: > 120 mg/L

Trans-1,2-Dichloroethylene

96 hour LC50 in bluegill sunfish: 74 mg/l
48 hour LC50 in Daphnia magna: 79 mg/l
96 hour EC50 in green algae: 798 mg/l

Methanol

96 hour LC50 – Flathead minnow: 28,100 mg/l
48 hour EC50 – Water flea (Daphnia magna): > 10,000 mg/l
96 hour LC50 – Green algae (Selenastrum carpicornutum): 22,000 mg/l

N-Methyl-2-Pyrrolidone

96 hour LC50 – Bluegill sunfish (Lepomis macrochirus): 832 mg/l
24 hour EC50 – Water flea (Daphnia magna): > 1000 mg/l
72 hour EC50 – Green algae (Desmodesmus subspicatus): 600 mg/l
EC10 (activated sludge): 100 mg/l

13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Remove to a permitted waste disposal facility.

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) is controlled by TSCA Section 5, Significant New Use Rule (SNUR; 40 CFR 721.5645) The approved uses are: precision and general cleaning, carrier fluid, displacement drying, printed circuit board cleaning, particulate removal, film cleaning, process medium, heat transfer fluid (dielectric and non-dielectric), and test fluid. Processors and users of this substance must also comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A, including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125.

SARA 313 Regulated Chemicals: Trans-dichloroethylene, N-Methyl-2-Pyrrolidone, Methanol

State Regulations (U.S.)

California Proposition 65: This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

REACH (E.U.)

N-Methyl-2-Pyrrolidone is an SVHC. It is considered to be toxic for reproduction.

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health - 2
Flammability - 1
Reactivity - 1

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

FOR INDUSTRIAL USE ONLY

DATE: APRIL 2017

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.