



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-470C
D0522A
Urethane Conformal Coating

Product Use: Conformal Coating

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:vapor): Category 4
Aspiration Hazard: Category 1
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2A.
Respiratory Sensitization: Category 1
Skin Sensitization: Category 1
Reproductive toxicity: Category 2
Carcinogenicity: Category 2
Specific Target Organ Toxicity (single exposure): Category 3
Specific Target Organ Toxicity (repeated exposure): Category 2
Hazardous to the aquatic environment, long term hazard: Category 3

Label elements:

Signal word

Danger

Pictograms



Hazard Statements

May be fatal if swallowed and enters airways.
Harmful if swallowed or inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist/vapors/spray.
In case of inadequate ventilation, wear respiratory protection.
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: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace.
IF SKIN irritation or rash occurs: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER, a doctor/physician.
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.
Pressurized container: Do not pierce or burn, even after use.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/ container in accordance with local, regional, national regulations.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	1 – 8
Trans,1,2-Dichloroethylene	156-60-5	55 – 65
Toluene	108-88-3	2 – 10
Xylene	1330-20-7	1 – 3
1-Methoxy-2-propanol acetate	108-65-6	1 – 6
Ethyl benzene	100-41-4	< 1
Toluene Diisocyanate	26471-62-5	< 0.1
1,1,1,2-Tetrafluoroethane	811-97-2	16 – 20

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: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTER/doctor/physician if you feel unwell.

5. FIRE FIGHTING MEASURES

Flammability: This product is not flammable.

Test Method: Ignition distance test and Enclosed space ignition test

Suitable Extinguishing Media: Alcohol resistant foam, Dry chemical powder, 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, including respiratory protection. Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus, if necessary. Use water spray and fog for cooling exposed containers. Do not allow run-off from fire-fighting to enter drains or water sources.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: 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. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure area and call for assistance of trained personnel as soon as conditions permit.

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

Methods and materials for containment and clean up: 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 breathing vapors or mist. Use only with adequate ventilation. Avoid contact with eyes, skin, or clothing. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling. Do not handle until all safety operating conditions are established and maintained.

Storage Conditions: Store in a cool, well ventilated area. Do not store sources of heat, in direct sunlight or where temperatures exceed 120F/49C.

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, 8 Hr. TWA	200 ppm, 8 Hr. TWA
Toluene	20 ppm TWA	200 ppm, 8 Hr. TWA
Xylene	100 ppm TWA	100 ppm TWA
1-Methoxy-2-propanol acetate	Not Established	Not Established
Ethyl benzene	20 ppm TWA	100 ppm TWA
Toluene Diisocyanate	0.005 ppm TWA	Not Established
1,1,1,2-Tetrafluoroethane	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.

Eye Protection: Wear safety glasses or coverall chemical splash goggles. An eyewash and safety shower should be nearby.

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. Protective gloves and chemical splash goggles should be used when handling liquid.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N.A. (Aerosol)

Percent Volatile by Volume: N.A.

Density: 1.26 g/cc @ 77°F/25°C

Vapor Pressure: N.A.

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

Solubility in H₂O: Negligible

pH Information: Neutral

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

Form: Aerosol

Appearance: Clear

Color: Colorless to light amber

Odor: Solvent odor

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical stability: Stable under normal ambient conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions.

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 Carbon oxides (CO, CO₂), Hydrogen Chloride, Hydrogen fluoride, Carbonyl fluoride, Fluorocarbons.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: Ethyl Benzene and Toluene Diisocyanate are both listed as 2B possible carcinogenic to humans by IARC. Toluene Diisocyanate is listed as reasonably anticipated to be a human carcinogen by NTP.

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

Information on likely routes of exposure: Inhalation, Skin contact, Ingestion, Eye contact

Acute Toxicity: Not classified based on available information.

Skin Corrosion/Irritation: Not classified based on available information.

Serious Eye Irritation/ Eye Irritation: Not classified based on available information.

Skin Sensitization: Not classified based on available information.

Respiratory Sensitization: Not classified based on available information.

Germ Cell Mutagenicity: Not classified based on available information.

Carcinogenicity: Not classified based on available information.

Reproductive toxicity: Not classified based on available information.

STOT-single exposure: Not classified based on available information.

STOT-repeated exposure: Not classified based on available information.

Aspiration toxicity: Not classified based on available information

Trans-1,2-Dichloroethylene

Acute Oral: LD50: 7902 mg/kg in rats

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

Acute Inhalation: 4 hour LC50: 95.4 mg/l in rats. Test atmosphere: vapor. Method: OECD Test Guidelin 403

Skin Corrosion/Irritation: Mild skin irritation in rabbits

Serious Eye Irritation/ Eye Irritation: Mild eye irritation in rabbits. Reversing within 7 days.

Skin Sensitization: No data available

Respiratory Sensitization: No data available

Germ Cell Mutagenicity: Evidence does not support classification of a germ cell mutagen.

Carcinogenicity: Not classified based on available information.

Reproductive toxicity: Not classified based on available information.

STOT-single exposure: May cause drowsiness and dizziness.

STOT-repeated exposure: No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.

Aspiration toxicity: Not classified based on available information.

Toluene

Oral: LD50: > 5,580 mg/kg in rats

Dermal: LD50: 12,196 mg/kg in rabbits

Inhalation: 4 hour LC50: 12,500 – 28,800 mg/m³ in rats

Skin corrosion/irritation: Skin irritation – 24 hours in rabbits

Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: Genotoxicity in vitro – liver – DNA damage in rats
Reproductive Toxicity: Evidence of reproductive effects in humans.

Xylenes

Dermal: LD50: > 43g/kg, Rabbit
Inhalation: LC50: 3907 mg/l, 6 hours, Mouse
LD50: 6350 mg/l, 4 Hours, Rat
Oral: LD50: 1590 mg/kg, Mouse
LD 50: 3523 - 8600 mg/kg, Rat

12. ECOLOGICAL INFORMATION

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

Ecotoxicity: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
Other adverse effects
Results of PBT and vPvB assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Trans-1,2-Dichloroethylene

96 hour LC50 in *Lepomis macrochirus* (Bluegill sunfish): 135 mg/l
48 hour LC50 in *Daphnia magna* (Water flea): 220 mg/l
72 hour EC50 in *Pseudokirchneriella subcapitata* (Green algae): 36.36 mg/l

Biodegradability: Not readily biodegradable. Method: OECD Test Guideline 301D

Toluene

96 hour LC50 in Bluegill: 74 – 340 mg/l
96 hour LC50 in rainbow trout: 7.63 mg/l
7 day NOEC in fathead minnow: 5.44 mg/l
7 day LOEC in fathead minnow: 8.04 mg/l
24 hour EC50 in *Daphnia magna*: 8 mg/l
24 hour EC50 in Fresh water algae: 245 mg/l
24 hour EC50 in green algae: 10 mg/l

13. DISPOSAL CONSIDERATIONS

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, Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

IMDG

Proper Shipping Name: Aerosols, Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in TSCA inventory.

1,1,1,2,2,3,3,4,4,5,5-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.

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.

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

REVISION DATE: JULY 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.