



Material Safety Data Sheet

IDENTIFICATION

Name: MS-122N/CO₂
TFE Release Agent/Dry Lubricant

Chemical Family: N.A.

SARA/TITLE III STATUS:
Reported/Included.

Formula: N.A.

TSCA Inventory Status:
Reported.

MANUFACTURER/DISTRIBUTOR:
Miller-Stephenson Chemical
George Washington Highway
Danbury, Conn. 06810

Medical Emergency Phone:
(203) 797-2212

Transportation Emergency Phone:
(800) 424-9300

PHYSICAL DATA:

Boiling Point (°F): 40°C Approx.

Percent Volatile by Volume: 99%

Density: 1.23 g/cc

Vapor Pressure: 10 psia at 21°C

Vapor Density (Air=1): 4.0

Solubility in H₂O: Negligible

pH Information: Neutral

Evaporation Rate (CC14=1): 1

Form: Liquid

Appearance: Milky

Color: White

Odor: Faint Ethereal Odor

HAZARDOUS COMPONENTS:

| Material (s): | CAS No.: | Approximate %: |
|--------------------------------|-----------------|-----------------------|
| 1,1, dichloro-1-fluoroethane | 1717-00-6 | 92 - 95 |
| Isopropyl Alcohol | 67-63-0 | 2 - 4 |
| Telomer of Tetrafluoroethylene | 79070-11-4 | 1 |
| Carbon Dioxide | 65530-85-0 | |
| | 124-38-9 | 2 - 4 |

HAZARDOUS REACTIVITY

Stability: Material is stable at room temperature. Avoid heat, sparks and flame.

Incompatibility: Strong acids and alkalis, Finely powdered metals such as Al, Mg, Zn. Strong oxidizing agents and some desiccants.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming hydrogen fluoride, hydrogen chloride, carbon monoxide and carbon dioxide.

Polymerization: Will not occur.

FIRE AND EXPLOSION DATA

Flash Point: None

Method: TCC

Autoignition Temperature: Not Determined.

Flammable Limits in Air, % by Vol.: LEL: 7.4; UEL: 15.

Autodecomposition Temperature: Not Determined.

Fire and Explosion: Vapors are heavier than air and may travel to a source of ignition and flash back. Avoid high temperatures and static charges. Containers may rupture under fire conditions. Vapors concentrated in a confined or poorly ventilated space can be ignited with a flame or high intensity source of heat.

Extinguishing Media: Water spray or fog. Foam. Dry chemical or Carbon Dioxide.

Special Fire Fighting Instruction: Evacuate personnel to safe area. Use water spray or fog. Wear self-contained breathing apparatus (SCBA).

HEALTH HAZARD INFORMATION

PRINCIPAL HEALTH HAZARDS: (INCLUDING SIGNIFICANT ROUTES, EFFECTS SYMPTOMS OF OVER-EXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE.)

Inhalation of high concentrations of vapor may be harmful and may cause heart irregularities, unconsciousness, or death. Intentional misuse can be fatal. Vapor reduces oxygen available for breathing and is heavier than air.

The compound is not a skin irritant, is a mild eye irritant, and is not a skin sensitizer in animals.

Effects in animals from single inhalation exposures to high doses include anesthesia and transient effects on kidney function. Cardiac sensitization occurred in dogs and monkeys exposed to concentrations of 5,000 ppm and above. Repeated inhalation exposure of rats to 10,000 ppm of HCFC-141b produced reversible hematological effects and slight reversible alterations in clinical chemical parameters. A single skin application produced body weight loss, mild erythema, and slightly swollen livers. A single high oral dose resulted in slight body weight loss and swollen livers.

Poly-TFE, Alpha-chloro-Omega-(2,2 -Dichlorotrifluoroethyl) - and Poly-TFE, Alpha-(Cyclohexylmethyl)-Omega-Hydro- are untested for skin and eye irritancy, and are untested for animal sensitization. The effects in animals from acute, subchronic, or chronic exposure by inhalation, ingestion, or skin contact with either component have not been determined. Toxic effects described in animals exposed to decomposition products of Poly-TFE, alpha-Chloro-omega (2,2-Dichlorotrifluoroethyl) - formed at temperatures above 500°F/260°C include lung irritation, Pulmonary edema and death occurred in rats exposed to decomposition products formed at around 554°/290°C.

Repeated skin contact may cause irritation with discomfort or rash. Significant skin permeation, and systemic toxicity after contact appears unlikely. Contact with the eye may cause irritation with discomfort, tearing or blurring of vision.

Inhalation may initially include irritation of the upper respiratory passages, with coughing and discomfort. Ingestion can cause nausea, vomiting, abdominal pain and loss of consciousness. Inhalation, ingestion, or skin contact may initially include nonspecific discomfort, such as nausea, headache, abdominal pain, flushing of the face, hypertension, or weakness. Higher exposures may lead to temporary nervous system depression with anaesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness.

Inhalation of decomposition products may cause polymer fume fever; or lung irritation requiring medical treatment for fluorine compounds which can cause delayed pulmonary edema. Polymer fume fever is a flu-like illness with fever, chills, and sometimes cough, which occurs several hours after exposure and subsides within 24 hours even in the absence of treatment. Polymer fume fever does not cause permanent injury and the effects are not cumulative.

Carcinogenicity: None of the components in this material is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

| <u>Exposure Limits:</u> | <u>TLV (ACGIH)</u> | <u>PEL (OSHA)</u> | <u>Allied Signal</u> |
|--------------------------------|---------------------------|--------------------------|-----------------------------|
| 1,1-dichloro-1-fluoroethane | None Established. | None Established | 500 ppm |

Safety Precautions: Avoid breathing vapors or mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Fluorotelomer should not be handled around tobacco products. Inhalation of vapors in the presence of tobacco products causes polymer fume fever.

FIRST AID:

Inhalation: Immediately remove to fresh air. Keep persons calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Skin: Flush skin with water after excessive contact. Wash contaminated clothing before reuse.

Oral: If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Note to Physician: Because of a possible disturbance of cardiac rhythm, catecholamine drugs, such as epinephrine should be considered only as a last resort in life-threatening emergencies.

PROTECTION INFORMATION:

Generally Applicable Control Measures: Do not consume food, drink or tobacco in the areas where they may become contaminated with this material. Use with sufficient ventilation to keep employee exposure below the recommended exposure limit, especially for enclosed and low places. Where ventilation is inadequate use local exhaust system designed for flammable gas atmospheres to remove vapors.

Personal Protective Equipment: Neoprene or Mylar gloves and chemical splash goggles may be worn when handling.

DISPOSAL INFORMATION:

Aquatic Toxicity: N.A.

Spill, Leak or Release: NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Ventilate area. Do not flush to sewers. Collect on absorbent material and transfer to drums for recovery or disposal.

Waste Disposal: Comply with federal, state and local regulations.

SHIPPING INFORMATION:

DOMESTIC (DOT)

INTERNATIONAL AIR (IATA)

Proper Shipping Name:

Aerosols, Non-Flammable

Aerosols, Non-Flammable N.O.S.

Hazard Class:

Non-Flammable Gas, 2

Non-Flammable Gas, 2

UN #:

1950

1950

DOT/IATA Label:

Non-Flammable Gas

Non-Flammable Gas

ADDITIONAL INFORMATION:

Storage Conditions: Store in a clean dry area. Do not heat above 125°F. Rotate stock to shelf life of one year.

NPCA-HMIS Ratings:

Health - 2

Flammability - 1

Reactivity - 1

Personal Protection rating to be supplied by user depending on use conditions.

SARA/TITLE III HAZARD CATEGORIES AND LIST:

Product Hazard Categories:

Lists:

Acute Health - Yes

Chronic Health - No

Fire Hazard - No

Reactivity Hazard - No

Pressure Hazard - Yes

Extremely Hazardous Substance - No

CERCLA Hazardous Substance - No

Toxic Chemicals - No

Date Revised: November 1993

Person Responsible: Janet Stephens
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