

MATERIAL SAFETY DATA SHEET

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Section 1. Chemical Product and Company Identification

Product Code MS122"1	
Product Name MS122 DRY AEROSOL MOLD RELEASE	
Manufacturer's Name Mark V Laboratory, Inc.	Emergency Telephone Number CHEMTREC 800-424-9300
Address (Number, Street, City, State, and ZIP Code) 18 Kripes Road	Telephone Number For Information (860) 653-7201
Post Office Box 540	Date Prepared July 1, 2013
East Granby, Connecticut 06026	Signature of Preparer (optional)

Section 2. Composition / Information on Ingredients

Component	CAS Registry #	wt. %	Exposure Limits	
			ACGIH TLV	OSHA PEL
1,1,1,2 Tetrafluoroethane	811-97-2	86	NE	NE (8&12 hr. TWA) 1000ppm
Isopropyl Alcohol	67-63-0	13	400 ppm	400 ppm
Tetrafluoroethylene Telomer	65530-85-0 163440-89-9	1		

Section 3. Hazards Identification

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EMERGENCY OVERVIEW

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PRINCIPAL HEALTH HAZARDS:

EYE CONTACT: Eye irritation with tearing, pain or blurred vision. **See Section 16**

INHALATION: 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. **See Section 16**

SKIN CONTACT: Slight irritation, itching, redness or swelling. **See Section 16**

INGESTION: Irritation of the digestive tract. Major hazard is aspiration. **See Section 16**

CARCINOGENICITY: None of the components in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA, or ACGIH as a carcinogen. **See Section 16**

Section 4. First Aid Measures

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

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

SKIN CONTACT: Flush skin with water after contact. Wash contaminated clothing before reuse.

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

Section 5. Fire Fighting Measures

FLAMMABLE PROPERTIES:

FLASH POINT: Non-flammable as described in 16CFR 1500.45 **Method:** N.A.

FLAMMABLE LIMITS

LFL: Not determined

UFL: Not determined

EXTINGUISHING MEDIA: As appropriate for combustibles in area.

FIRE & EXPLOSION HAZARDS: Use water spray or fog to cool containers. Cans may rupture under fire conditions. Decomposition may occur.

FIRE FIGHTING INSTRUCTIONS: Wear self-contained breathing apparatus (SCBA).

Autoignition Temperature: Not determined

Flammable Limits in Air, % by Vol.: Not determined

Autodecomposition Temperature: Not determined

Section 6. Accidental Release Measures

Ventilate area with fresh air and remove all ignition sources, if a large amount is accidentally released. No need for additional release information, since it is an aerosol.

Section 7. Handling and Storage

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. When ventilation is inadequate, use appropriate respiratory protection. Avoid contact with skin and eyes. Wash thoroughly after handling. Tetrafluoroethane Telomer should not be handled around tobacco products. The inhalation of vapors in the presence of tobacco products will cause polymer fume fever.

Do not store near sources of heat, in direct sunlight or where temperatures exceed 120f/49c. Rotate stock to shelf life of one year.

Section 8. Exposure Controls / Personal Protection

RESPIRATORY PROTECTION: Avoid breathing vapors, mists or spray. Use with sufficient ventilation especially for enclosed or low places. Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. If necessary to keep exposure limits below permissible limits, use NIOSH approved respirators, with organic cartridges.

SKIN PROTECTION: Impervious gloves

EYE PROTECTION: Chemical splash goggles

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

Section 9. Physical and chemical Properties

APPEARANCE:	Milky / White	PHYSICAL STATE:	Liquid
BOILING POINT:	N/A	SOLUBILITYINWATER:	Insoluble
EVAPORATION RATE:	(CC14=1) N.A.	DENSITY:	1.2g/cc @ 77f/25c
ODOR:	Faint Alcohol	VAPOR DENSITY:	>1 (Air = 1)
pH:	Neutral	VAPOR PRESSURE:	80psig at 77f/25c
% VOLATILE:	99%		

Section 10. Stability and Reactivity

CHEMICAL STABILITY: Stable at room temperature

INCOMPATIBILITY: Alkali or Alkaline earth metals - powdered Al, Zn, Be, etc. Also, nitric acid, and sulfuric acids, strong oxidizers aldehydes, halogens, halogen compounds,... aluminum, amines and ammonia.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposed by high temperatures forming hydrofluoric acid, possibly carbonyl fluoride, hazardous gases including carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

Section 11. Toxicological Information

SEE SECTION 16 FOR COMPLETE TOXICOLOGICAL INFORMATION.

EYE: A short duration spray of vapor produced very slight eye irritation.

SKIN: Animal testing indicates this is a slight skin irritant, but not a skin sensitizer

INGESTION: SEE SECTION 16 FOR INFORMATION

INHALATION: SEE SECTION 16 FOR INFORMATION

CARCINOGENICITY: None of the components in this product are listed as a carcinogen by IARC, NTP, OSHA, ACGIH.

Section 12. Ecological Information

AQUATIC TOXICITY:**Isopropyl Alcohol**

96 hour LC50, Fathead Minnows: 3,200 mg/l

Section 13. Disposal Considerations

Comply with federal, state and local regulations.

Section 14. Transport Information (Not meant to be all inclusive)

D.O.T. SHIPPING NAME: Refrigerant gas R 134a**TECHNICAL SHIPPING NAME:** Refrigerant gas R 134a**D.O.T. HAZARD CLASS:****U.N. / N.A. NUMBER:** UN3159**PRODUCT RQ (LBS):** N/A**D.O.T. LABEL:** Non-Flammable Gas**D.O.T. PLACARD:** N/A**FREIGHT CLASS BULK:** N/A**FREIGHT CLASS PACKAGE:** N/A**PRODUCT LABEL:** MS122B

Section 15. Regulatory Information (Not meant to be all inclusive - selected regulation represented)

OSHA STATUS: NO**TSCA STATUS:** Yes All ingredients listed in TSCA inventory**CERCLA REPORTABLE QUANTITY:** NO**SARA TITLE III:****SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES:** NO**SECTION 311/312 HAZARDOUS CATEGORIES:** Acute Health, Pressure Hazard**SECTION 313 TOXIC CHEMICALS:** Yes (Isopropyl Alcohol component only)**RCRA STATUS:** NO**CALIFORNIA PROPOSITION 65:** No**NPCA - HMIS Ratings:****Health** 2**Flammability** 2**Reactivity** 1

Personal Protective rating supplied by user depending on use conditions.

For industrial use only

Section 16. Other Information

MSDS STATUS:**PRINCIPAL HEALTH HAZARDS: (INCLUDING SIGNIFICANT ROUTES, EFFECTS SYMPTOMS OF OVEREXPOSURE AND MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE)**

Inhalation: Gross overexposure may cause: Suffocation, if air is displaced by vapors. Based on animal data, repeated or excessive overexposure may cause the following effects: Central nervous system stimulation with increased activity or sleeplessness. Tremors. Convulsions. These effects may be followed by: Central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness. Potential effects based on data from *OTHER FLUOROCARBONS*: Gross overexposure may cause: Irregular heartbeat with a strange sensation in the chest, "heart thumping", apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death. It is unlikely that concentrations sufficient to produce irregular heartbeat would be achieved from 1,1,1,2,3,4,4,5,5,5-decafluoropentane without first producing other signs of toxicity.

Inhalation, ingestion or skin contact of Isopropyl Alcohol may cause nonspecific effects such as headache, nausea, weakness, flushing of the face or low blood pressure. Higher exposures to Isopropyl Alcohol may cause central nervous system depression with dizziness, confusion, incoordination, drowsiness, or unconsciousness or fatality from gross overexposure. Inhalation of fluorine compounds released as decomposition products above 290c (554f) may cause lung irritation, and pulmonary edema which require medical treatment. Inhalation of fumes or smoke from overheated or burning Poly-TFE may cause polymer fume fever, a temporary flu-like illness accompanied by fever, chills, and sometimes cough, of approximately 24 hour duration. Repeated episodes of polymer fume fever may cause lung damage.

1,1,1,2-tetrafluoroethane is untested for skin and eye irritation, and is untested for animal sensitization. No toxic effects were seen in animals from exposure by inhalation to concentrations up to 81,000 ppm. Lethargy and rapid respiration were observed at a vapor concentration of 205,000 ppm and pulmonary congestion, edema, and central nervous system effects occurred at a vapor concentration of 750,000 ppm. Cardiac sensitization occurred in dogs at 75,000 ppm from the action of exogenous epinephrine. No adverse effects were observed in male and female rats fed 300mg/kg/day of Tetrafluoroethane for 52 weeks. Animal testing indicates that this compound does not have carcinogenic, or mutagenic effects. Embryotoxic activity has been observed in some animal tests but only at maternally toxic dose levels.

SKIN CONTACT: Immediate effects of overexposure may include: Slight irritation with itching, redness, or swelling. Repeated and/or prolonged exposure may cause: Defatting of the skin with itching, redness, or rash. Data to evaluate the skin permeation hazard of this compound are insufficient. There are inconclusive or unverified reports of human sensitization.

EYE CONTACT: Immediate effects of overexposure may include: Eye irritation with tearing, pain, or blurred vision.

INGESTION: The major ingestion hazard is aspiration (liquid entering the lungs during ingestion or vomiting), which may result in "chemical pneumonia". Symptoms include coughing, gasping, choking, shortness of breath, bluish discoloration of the skin, rapid breathing and heart rate, and fever. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may develop immediately or as late as 24 hours after exposure, depending on how much chemical entered the lungs. Ingestion may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting or diarrhea.

ADDITIONAL HEALTH EFFECTS: Increased susceptibility to the effects of this material may be observed in persons with pre-existing disease of the central nervous system, cardiovascular system.

DEVELOPMENTAL TOXICITY: Isopropyl alcohol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

TOXICOLOGICAL INFORMATION:

Isopropyl alcohol is a mild skin irritant, a mild eye irritant, and is untested for skin sensitization in animals. Repeated exposure caused dry skin, decreased body weight, and increased lung weight. The effects in animals from single exposure by ingestion to near lethal doses include histopathological changes of the stomach, lungs, kidneys, incoordination, lethargy, gastrointestinal tract irritation, inactivity, or anaesthesia. Long-term ingestion exposure caused incoordination, lethargy, and reduced weight gain. The effects in animals from single exposure by inhalation include inactivity or anaesthesia, histopathological changes of the nasal cavity and auditory canal. Repeated inhalation exposure caused narcosis, incoordination, and degeneration of the liver. No adequate animal data are available to define the carcinogenic potential of the material. Animal data show developmental effects only at exposure levels producing other toxic effects in the adult animal. Reproductive data on rats show no change in reproductive performance. Tests have shown that this material does not cause genetic damage in bacterial or mammalian cell cultures or in animals.

Poly-TFE, omega-hydro-alpha- (methylcyclohexyl)- is untested for skin and eye irritancy, and is untested for skin sensitization in animals. The effects in animals from acute, subchronic, or chronic exposure by inhalation, ingestion, or skin contact have not been determined. No animal test reports are available to define carcinogenic, mutagenic, developmental, or reproductive hazards.

NOTE: The information on this data sheet represents our current data and best opinion as to the proper use in handling of this product under normal conditions. Any use of the product which is not in conformance with this Data Sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.