

MATERIAL SAFETY DATA SHEET

IDENTIFICATION:

Name:

AUTOFROST (R-406A) or Autofrost-X3

Chemical Family:

Halogenated Hydrocarbons + Paraffinic Hydrocarbons

Formula:

Mixture of i-C₄H₁₀ / CH₃CClF₂ / CHClF₂

Synonyms:

Methyl propane / R-142b or Isotron-142b or chlorodifluoroethane or HCFC-142b / R-22 or Freon-22 or Genetron-22 or HCFC-22 / R-600a / R-406a / McCool R-406A

CAS Name:

Isobutane

1-Chloro-1,1-difluoroethane

Chlorodifluoromethane

CAS Registry No.

75-28-5

75-68-3

75-45-6

Manufacturer / Distributor:

Peoples Welding Supply, Inc

426 Brown St Levee

W. Lafayette, In 47906

(765) 743-3839

Emergency phone (24 hr): (800) 535-5053 or (765) 463-2672 or (800) 969-4062

PHYSICAL DATA:

Boiling (bubble) point: -26.23 F

Percent volatile by volume: 100

Boiling (dew) point: -10.05 F

Mol. Wt: 89.87

Density (liquid 70 F) 70.27 LB/FT³

Pressure: 95 PSIA @ 70 F

Vapor Density (Air = 1): @ 70F 1.29 LB/FT³

Solubility in H₂O: slight

pH Information: Neutral

Freezing point: Not Established

Appearance and odor:

Colorless liquified gas with faint ethereal odor

HAZARDOUS COMPONENTS

Material(s):

Isobutane

chlorodifluoroethane (R-142b)

chlorodifluoromethane (R-22)

Approximate weight % :

4

41

55

HAZARDOUS REACTIVITY

Stability:

Material is stable. However, avoid open flames and high temperatures.

Incompatibility (materials to avoid):

Strong oxidants, including oxygen.

Freshly scraped aluminum, Alkali metals, and Alkali earth metals (sodium, magnesium, etc), may cause exothermic reaction. Aluminum in refrigeration systems contains an oxide/chloride coating, so it does not react.

Hazardous decomposition products:

May decompose at high temperatures (above 400F - 500F), and from contact with hot metal, heating elements, pilot lights, internal combustion engines, and open flames. Decomposition products may include hydrofluoric and hydrochloric acids, chlorine, fluorine, possibly phosgene, carbon dioxide, and carbon monoxide.

Polymerization:

Will not occur.

FIRE AND EXPLOSION DATA:

Flash Point:

NONE

Autoignition temperature:

N/A

Autodecomposition Temperature:

400 - 500F or above

Fire and Explosion:

Cylinders may vent or rupture in fire conditions, leading to decomposition.

Extinguishing Media:

Water spray.

Special Fire Fighting Instructions:

Use self-contained breathing apparatus. Use water spray to cool cylinders to prevent bursting or venting under fire conditions.

Product may be flammable if mixed with large quantities of air at greater than atmospheric pressure.

If cylinders of product have been leaking (vapor leak), the remaining product may become weakly flammable. Heat of combustion is around 1/10 of that of hydrocarbon gasses, but no flash point.

Cylinders of USED refrigerant, may contain large amounts of refrigeration (mineral) oil. A liquid leak or cylinder venting in a fire will bring out a cloud of oil mist. This oil mist can be very flammable (in the order of gasoline).

HEALTH HAZARD INFORMATION

Principle Health Hazards:

Inhalation: Vapor is heavier than air and can cause suffocation by displacing oxygen available for breathing. Contact with liquid may cause frostbite.

Breathing high concentrations of vapor may cause light headedness, giddiness, shortness of breath, and may lead to narcosis, cardiac irregularities, unconsciousness or death. May cause eye irritation.

Toxicity / Exposure limits:

OSHA and ACGIH Not established, but recommend TWA 1000 PPM.

Isobutane.

Humans exposed to Isobutane, 500 PPM, 8 hours/day, 5 days/week, for 4 weeks, showed no cardiac, pulmonary or other functional abnormalities.

Chlorodifluoroethane.

Inhalation - Rat - 4 HR LC50 = 128,000 PPM.

Chlorodifluoromethane.

Low in toxicity at concentrations as high as 4% (40,000 ppm). Narcotic effects have been seen at 200,000 ppm. Heart efficiency (animal studies) has been reported to be reduced at concentrations of over 25,000 ppm. Cardiac sensitization to epinephrine has been observed at concentrations of 50,000 ppm.

First Aid

Inhalation: Remove to fresh air, call a physician. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not give epinephrine or similar drugs.

Note to physicians: Because of possible increased risk or eliciting cardiac dysrhythmias, catecholamine drugs, such as epinephrine, should be considered only as a last resort in life threatening emergencies.

Eyes: Flush immediately with water for at least 15 minutes. Call a physician.

Skin: Flush with water, warm slowly (cool water) if frostbite. Call a physician.

PRECAUTIONS/PROCEDURES

Spill or leak:

Using a self-contained air supply and frostbite protection, personnel should attempt to close valves or repair the source of the leak, if it is safely possible to do so. If a large quantity is released, evacuate personnel, and allow to dissipate.

SHIPPING INFORMATION

Proper shipping name: Compressed Gas, N.O.S. UN1956
DOT placard: Nonflammable gas

Do not heat above 125F

Other information:

Date revised: 05/08/00

Person responsible: George Goble
Peoples Welding Supply Inc
426 Brown St. Levee
W. Lafayette, IN 47906
(765) 743-3839 or (765) 463-2672