



# TULSTAR PRODUCTS, INC.

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## **MATERIAL SAFETY DATA SHEET**

October 23, 2003

### **COMPANY INFORMATION**

Company Name: **TULSTAR PRODUCTS, INC.**  
5510 S. Lewis Avenue  
Tulsa, OK 74105  
Phone Number: (918) 749-9060  
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Email Address: [tulstar@tulstar.com](mailto:tulstar@tulstar.com)  
Emergency Number: CHEMTREC 800-424-9300 (24 hours)

### **IDENTIFICATION**

Product Name: HCFC 141b  
Chemical Name: 1,1-Dichloro-1-Fluoroethane  
Synonyms: HCFC 141b  
Formula:  $CC_{12}F-CH_3$  (>99.5% by weight)  
Molecular Weight: 116.9  
CAS No.: 1717-00-6

### **COMPOSITION/INFORMATION ON INGREDIENTS**

Concentration: >99.5% by weight  
CAS No.: 1717-00-6  
ACGIG TLC & OSSA Pal: Not established – Industry Recommended AEL of 500 ppm for 8 hr TWA

### **HAZARD INGREDIENTS**

None: Presents and insignificant hazard to human health. In case of decomposition, release dangerous products.

### **FIRST AID MEASURES**

Routes of Exposure: Inhalation, eyes, skin, ingestion.  
Effects:  
Inhalation: At elevated concentration, feeling of intoxication, restlessness, dizziness and drowsiness, risk of cardiac arrhythmia, risk of asphyxia by lack of oxygen.  
Eyes: Moderate irritation.  
Skin: In case of repeated contact: dry and chapped skin, risk of chronic dermatitis.  
Ingestion: No data available for humans.  
Regulatory Carcinogenicity: None of the components present in this material at concentrations equal to or greater than 0.1% are treated by ARC, NTP, OSHA, or ACGIH as a carcinogen.  
First Aid:  
Inhalation: Remove the subject from contaminated area. Cardiopulmonary resuscitation or oxygen if necessary. Consult with a physician in case of respiratory and nervous symptoms.

Eye:	Flush eyes with running water for several minutes while keeping eyelids open. Consult with an ophthalmologist in case of persistent pain.
Skin:	Wash the affected skin with soap and water. Remove any contaminated clothing and replace with clean clothing.
Ingestion:	Consult with a physician for advice. If the subject is completely conscious, rinse mouth with fresh water. Do not induce vomiting. If subject is unconscious, not applicable.

### **FIRE FIGHTING MEASURES**

Common extinguishing methods:	In case of fire in close proximity, all means of extinguishing are acceptable (see below).
Special Hazards:	Non-flammable. Strong energy source necessary for ignition. Product's vapors do not propagate the flame. Gas/vapors combustion possible in presence of air in very particular conditions.
Protective measures in case of intervention:	Evacuate all nonessential person. Intervention only by capable personnel who are trained and aware of the hazards of the product. Wear self contained breathing apparatus when in close proximity of in confined spaces. When in close proximity or intervention wear acid resistant suit. After intervention proceed to clean the equipment (shower, remove clothing, clean and check).
Other precautions:	If safe to do so, remove the exposed containers or cool large quantities of water. After the fire, ventilate and clean the rooms before reentry.

### **ACCIDENTIAL RELEASE MEASURES**

Precautions:	If safe to do so, without exposing the personnel, try to stop the spillage. Eliminate all sources of ignition and do not generate flames or sparks. Avoid materials and products which are incompatible with the product.
Cleanup Methods:	If possible, dike large quantities of liquid with sand or earth. Pump or absorb liquid and place into drums or other metal containers. For smaller spills, let the product evaporate. Prevent the product from entering sewers or confined places. Avoid discharge into the environment.

### **HANDLING & STORAGE**

Handling:	Carry out all operation in a closed vessel. Handle in small steps under a fume hood. Operate in a well ventilated area. Prevent any products decomposition vapors from contacting hot spots. Prevent any product decomposition vapors from electric arc action. Preferable transfer by pump or gravity. Use only containers which are compatible with the substance. Keep away from sources of ignition and heat. Keep away from reactive substances.
Storage:	Ventilated, cool area. Protect from direct sunlight. Keep away from sources of ignition and heat. Keep away from reactive substances.
Packaging:	Uncoated Inox. Steel.

### **EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering Controls:	Local ventilation. Provide local ventilation suitable for the emission risk.
Respiratory Protection:	None if the local exhaust ventilation is adequate. Self-contained breathing apparatus in medium confinement, insufficient oxygen, in case of large controlled emissions, in all circumstances when the mask and cartridge do not give adequate protection. Use only respiratory protection that conforms to international/national standards.
Hand Protection:	Protective gloves, chemical resistant. Recommended-Polyvinylalcohol.

Eye Protection: Wear protective goggles for all industrial operations. Chemical proof goggles/face shield, if risk of splashing.  
Skin Protection: Apron/boots of neoprene if risk of splashing.  
Other Precautions: Shower and eye baths.

## **PHYSICAL & CHEMICAL PROPERTIES**

Appearance: Colorless liquid, with slight ethereal odor.  
pH: Neutral  
Boiling Point: 31.7°C  
Melting Point: -103.5°C  
Flash Point: None  
Flammable Limits in Air: Lower limit: 5.6% by volume (LEL)  
Upper limit: 17.7% by volume (UEL)  
Autoignition Temperature: 532°C  
Combustible Characteristic: Vapor in air may be flammable.  
Vapor Pressure: 645 mm @ 20°C  
Vapor Density: 4 (air = 1)  
Specific Gravity: 1.27 (H<sub>2</sub>O = 1)  
Solubility: Water solubility (@20°C;g/l) slightly soluble. Other solvents are miscible in most common organic solvents.  
Decomposition Temperature: >200°C (total decomposition at 600°C).  
\*Remark: Liquid not easily flammable (min. ignition energy approx. 20 joule @ 20°C)

## **STABILITY & REACTIVITY**

Stability: Stable under certain conditions. Decomposition produces dangerous gases, upon contact with flames or hot metallic surfaces.  
Conditions to Avoid: Heat and sources of heat.  
Material to Avoid: Alkali metals and their alloys, strong alkaline desiccatives, ferric chlorides, some molecular sieves, alkaline (earth metals), metallic powders.  
Hazardous Decomposition Products: Hydrochloric acid, phosgene, fluorophosgene.  
Other Information: Contact with strong bases or alkaline materials may provoke violent reactions or explosions. The vapor is heavier than air, disperses at ground level.

## **TOXICOLOGICAL INFORMATION**

Acute Toxicity: Oral route, LD 50, rat, >5000 mg/kg; dermal route, LD 50, rat, .2000 mg/kg; inhalation, LC 50, 4 hrs, rat, 301 mg/ltr.  
Irritation: Rabbit, non irritant (skin); rabbit, slightly irritant (eyes); rat, non irritant (respiratory tract).  
Sensitization: Guinea pig- non sensitizing  
Chronic Toxicity: No mutagenic, carcinogenic, teratogenic effects. Inhalation, acute administration, dog, cardiac sensitization after pretreatment with adrenaline, >=0.5%.

## **DISPOSAL CONSIDERATIONS**

Waste Treatment: Comply with local and national regulations. Contact the producer for recycle.  
Packaging Treatment: To avoid treatment, as far as possible use dedicated containers.

## **REGULATORY INFORMATION**

DOT: Non Regulated  
NFPA Labeling: Health-2  
Flammability-2  
Reactivity-0  
TLC (ACGHIH)-TWA: None established  
PAL (OSSA)-PEL: None established  
Industry Recommendations: Acceptable exposure limit of 500 ppm, 8 and 12 hours TWA.