

# **QUZHOU JINYUAN HONGTAI REFRIGERANT CO.,LTD.**

## **Material Safety Data Sheet**

### **1.IDENTIFICATION OF THE SUBSTANCE**

#### **PRODUCT NAME: DIFLUOROMETHANE (HFC-32)**

Product name: DIFLUOROMETHANE (HFC-32)  
Synonyms: HFC-32, refrigeration gas (R32)  
Supplier: QUZHOU JINYUAN HONGTAI REFRIGERANT CO., LTD.  
Address: QUZHOU CITY, ZHEJIANG PROVINCE, CHINA 324004  
E-mail: [techjxrefrigerant@163.com](mailto:techjxrefrigerant@163.com)  
Fax: 0086-570-8068763  
Enterprise emergency phone: 0086-570-8068769  
This MSDS effected since Nov 18<sup>th</sup>, 2012

### **2. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>HAZARDOUS INGREDIENT(S)</b>	<b>CAS No.</b>	<b>Formula</b>
Difluoromethane (HFC 32)	75-10-5	CH <sub>2</sub> F <sub>2</sub>

### **3. HAZARDS IDENTIFICATION**

Extremely Flammable liquified gas.

Low acute toxicity. Very high atmospheric concentrations may cause anaesthetic effects and asphyxiation.

Liquid splashes or spray may cause freeze burns to skin and eyes.

### **4. FIRST-AID MEASURES**

Inhalation: Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention.

Skin Contact: Thaw affected areas with water. Remove contaminated clothing. Caution: clothing may adhere to the skin in the case of freeze burns. After contact with skin, wash immediately with plenty of warm water. If irritation or blistering occur obtain medical attention.

Eye Contact: Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain immediate medical attention.

Ingestion: Unlikely route of exposure. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain immediate medical attention.

## **5. FIRE-FIGHTING MEASURES**

The lower flammable limit of 14% v/v and the heat of combustion for HFC 32 are consistent with a class 2 classification (ASHREA Standard 34-1992: Number Designations and Safety Classification of Refrigerants). Certain mixtures of HFCs and chlorine may be flammable or reactive under certain conditions. Combustion or thermal decomposition will evolve very toxic and corrosive vapours. ( hydrogen fluoride ) Containers may burst if overheated.

Extinguishing Media: Allow gas fires to burn until exhausted. Water spray should be used to cool containers.

Fire Fighting Protective Equipment: A self contained breathing apparatus and full protective clothing must be worn in fire conditions.

## **6. ACCIDENTAL RELEASE MEASURES**

Ensure suitable personal protection (including respiratory protection) during removal of spillages.

Eliminate sources of ignition. Provided it is safe to do so, isolate the source of the leak.

Allow small spillages to evaporate provided there is adequate ventilation.

Large spillages: Ventilate area. Contain spillages with sand, earth or any suitable adsorbent material. Prevent liquid from entering drains, sewers, basements and workpits since the vapour may create an explosive or suffocating atmosphere.

## **7. HANDLING AND STORAGE**

### **7.1 HANDLING**

Keep away from sources of ignition - No Smoking. Take precautionary measures against static discharges.

Avoid inhalation of high concentrations of vapours. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Atmospheric concentrations well below the occupational exposure limit can be achieved by good occupational hygiene practice.

The vapour is heavier than air, high concentrations may be produced at low levels where general ventilation is poor, in such cases provide adequate ventilation or wear suitable respiratory protective equipment with positive air supply.

Avoid contact between the liquid and skin and eyes.

### **7.2 STORAGE**

Keep in a well ventilated place. Keep in a cool place away from fire risk, direct sunlight

and all sources of heat such as electric and steam radiators.  
 Avoid storing near to the intake of air conditioning units, boiler units and open drains.  
 Cylinders and Drums:  
 Keep container dry.  
 Storage temperature : < 45°C

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear suitable protective clothing, gloves and eye/face protection. Wear thermal insulating gloves when handling liquefied gases.  
 In cases of insufficient ventilation, where exposure to high concentrations of vapour is possible, suitable respiratory protective equipment with positive air supply should be used.

### Occupational Exposure Limits

HAZARDOUS STEL INGREDIENT(S) mg/m <sup>3</sup>	LTEL 8hr TWA ppm	LTEL 8hr TWA mg/m <sup>3</sup>	STEL ppm
Difluoromethane (HFC 32) -	1000	-	-

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form: liquefied gas  
 Color: colorless and transparent  
 Odor: odorless  
 Boiling Point (760mmHg, C) : -51.6  
 Flammable Limits (Lower) (%v/v): 14.0  
 Flammable Limits (Upper) (%v/v): 31.0  
 Liquid Density (g/ml): 0.96  
 Solubility (Water): insoluble  
 ODP: 0  
 GWP: 0.11

## 10. STABILITY AND REACTIVITY

Hazardous Reactions: Certain mixtures of HFCs and chlorine may be flammable or reactive under certain conditions.  
 Incompatible materials: finely divided metals, magnesium and alloys containing more than 2% magnesium.  
 Can react violently if in contact with alkali metals

and alkaline earth metals - sodium, potassium, barium.

May react violently with: oxidising agents.

Hazardous Decomposition Product(s): hydrogen fluoride by thermal decomposition and hydrolysis.

## **11. TOXICOLOGICAL INFORMATION**

### **Inhalation**

Very high atmospheric concentrations may cause anaesthetic effects and asphyxiation. An inhalation study in dogs has shown that HFC 32, unlike analogous substances, does not cause cardiac sensitisation at concentrations up to 35% v/v.

### **Skin Contact**

Liquid splashes or spray may cause freeze burns. Unlikely to be hazardous by skin absorption.

### **Eye Contact**

Liquid splashes or spray may cause freeze burns.

### **Ingestion**

Highly unlikely - but should this occur freeze burns will result.

### **Long Term Exposure**

An inhalation study in animals has shown that repeated exposures produce no significant effects (49500ppm v/v in rats ).

## **12. TRANSPORT INFORMATION**

UN No.: 3252

SEA

IMDG

-primary: 2.1

Proper Shipping Name: DIFLUOROMETHANE

## **13. REGULATORY INFORMATION**

EC Classification: EXTREMELY FLAMMABLE

Hazard Symbol: F+

Risk Phrases: R12 Extremely flammable.

#### **14. OTHER INFORMATION**

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