

SAFETY DATA SHEET

R32

00000001

Version 1.3

Revision Date 06/15/2017

Print Date 07/01/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name in English : R32
MSDS Number : 00000001
Product Use Description : Refrigerant
Manufacturer or supplier's : Zibo Feiyuan Chemical Co.,Ltd
Details : Qinghe Industrial Park Zone, Gaoqing County,
Zibo City, Shandong Province, China
Postcode : 256301
Telephone : +86-533-3589318
Emergency Telephone : +86-533-6258006
Number

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form : Liquefied gas
Color : Colourless
Odor : Weak

Classification of the substance or mixture

Classification of the substance or mixture : Gases under pressure, Liquefied gas
Simple Asphyxiant

GHS Label elements, including precautionary statements

Symbol(s) :



Signal word : Warning

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Hazard statements : Contains gas under pressure; may explode if heated.
 May displace oxygen and cause rapid suffocation.

Precautionary statements : **Prevention:**
 Use personal protective equipment as required.

Storage:
 Protect from sunlight. Store in a well-ventilated place.

Hazards not otherwise Classified : May cause eye and skin irritation.
 May cause frostbite.
 May cause cardiac arrhythmia.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Chemical Name	CAS No.	Concentration
Difluoromethane	75-10-5	99.90%

SECTION 4. FIRST AID MEASURES

Inhalation : Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Use oxygen as required, provided a qualified operator is present. Call a physician. Do not give drugs from adrenaline-ephedrine group.

Skin contact : After contact with skin, wash immediately with plenty of water. If there is evidence of frostbite, bathe (do not rub) with lukewarm (not hot) water. If water is not available, cover with a clean, soft cloth or similar covering. If symptoms persist, call a physician.

Eye contact : Rinse immediately with plenty of water, also under the eyelids,

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for at least 15 minutes. In case of frostbite water should be lukewarm, not hot. If symptoms persist, call a physician

Ingestion : Unlikely route of exposure. As this product is a gas, refer to the inhalation section. Do not induce vomiting without medical advice. Call a physician immediately

Notes to physician

Treatment : Because of the possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution and only in situations of emergency life support. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions. Treat frost-bitten areas as needed.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : The product is not flammable.
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during firefighting : Contents under pressure.
This product is not flammable at ambient temperatures and atmospheric pressure.
However, this material can ignite when mixed with air under pressure and exposed to strong ignition sources.
Container may rupture on heating
Cool closed containers exposed to fire with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

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In case of fire hazardous decomposition products may be produced such as:

Hydrogen halides

Hydrogen fluoride

Carbon monoxide

Carbon dioxide (CO₂)

Carbonyl halides

Special protective equipment for firefighters : In the event of fire and/or explosion do not breathe fumes.
Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Wear personal protective equipment. Unprotected persons must be kept away.
Remove all sources of ignition.
Avoid skin contact with leaking liquid (danger of frostbite).
Ventilate the area.
After release, disperses into the air.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Avoid accumulation of vapours in low areas.
Unprotected personnel should not return until air has been tested and determined safe.
Ensure that the oxygen content is $\geq 19.5\%$.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
The product evaporates readily.

Methods for cleaning up : Ventilate the area.

SECTION 7. HANDLING AND STORAGE

Handling

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Handling : Handle with care.
 Avoid inhalation of vapour or mist.
 Do not get in eyes, on skin, or on clothing.
 Wear personal protective equipment.
 Use only in well-ventilated areas.
 Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C.
 Follow all standard safety precautions for handling and use of compressed gas cylinders.
 Use authorized cylinders only.
 Protect cylinders from physical damage.
 Do not puncture or drop cylinders, expose them to open flame or excessive heat.
 Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.
 Do not remove screw cap until immediately ready for use.
 Always replace cap after use.

Advice on protection against fire and explosion : The product is not flammable.
 Can form a combustible mixture with air at pressures above atmospheric pressure.

Storage

Requirements for storage : Pressurized container: protect from sunlight and do not expose areas and containers to temperatures exceeding 50 °C. Do not pierce or burn, even after use.
 Keep containers tightly closed in a dry, cool and well-ventilated place.
 Storage rooms must be properly ventilated.
 Ensure adequate ventilation, especially in confined areas.
 Protect cylinders from physical damage.
 Store away from incompatible substances.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Authorized Limit Values:

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMIT
Difluoromethane	None	None	*1000 ppm TWA (8hr)

* = Workplace Environmental Exposure Level (AIHA)

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CHINA MAC: No information available.

- Engineering Controls** : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
- Respiratory Protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hand Protection** : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eye Protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin Protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

- Appearance:** Gas at ambient temperatures **Color/Colour:** Colorless/colourless
- Odor/Odour:** Slight, ether-like. **Molecular Weight:** 52.02
- Boiling Point(1013 mbars):** - 51.6°C **pH:** Neutral
- Vapor Pressure:** 206.3 psia (25° C) **Vapor Density (air=1):** 1.1(25°C)
- Specific Gravity(water = 1.0):** 1.8 (25°C) **Solubility:** Not determined
- Application:** Refrigerant.

SECTION 10. STABILITY AND REACTIVITY

- Stability** : The product is stable. Do not mix with oxygen or air above atmospheric pressure. Any source of high temperatures, such as lighted cigarettes, flames, hot spots or welding may yield toxic and/or corrosive decomposition products.
- Incompatibility With Other Materials** : Avoid contact with strong alkali or alkaline earth metals, finely powdered metals such as aluminum, magnesium or zinc and strong oxidizers since they may react with or accelerate decomposition of this material.

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Hazardous Decomposition : Thermal decomposition products include hydrogen fluoride, hydrogen chloride, carbon monoxide, carbon dioxide and chlorine and possibly carbonyl halides. These materials are toxic and irritating. Contact should be avoided.

Hazardous Polymerization : Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

LC50 Inhalation - rat - 4 h - 1,890,000 mg/m³

LC50 Inhalation - mouse - 1,810,000 mg/m³

Remarks: Behavioral: Change in motor activity (specific assay). Behavioral: Ataxia. Respiratory disorder

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

narcosis, Exposure to large amounts can cause:, Damage to the heart.

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

Target Organs Damage to the heart., Heart,

Additional Information

RTECS: PA8537500.

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SECTION 12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)	no data available
Ecotoxicity effects	no data available
Further information on ecology	no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product

SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 3252 Class: 2.1

Proper shipping name: Difluoromethane

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 3252 Class: 2.1 EMS-No: F-D, S-U

Proper shipping name: DIFLUOROMETHANE

Marine pollutant: No

IATA

UN-Number: 3252 Class: 2.1

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Proper shipping name: Difluoromethane

IATA Passenger: Not permitted for transport

SECTION 15. REGULATORY INFORMATION

OSHA Hazards

Flammable Gas, Target Organ Effect

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Difluoromethane CAS-No 75-10-5

New Jersey Right To Know Components

Difluoromethane CAS-No. 75-10-5

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

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SECTION 16. OTHER INFORMATION

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. It is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.