Chemical Safety Data Sheet

Section 1 IDENTIFICATION

GHS Product identifier: Refrigerant Gas R32 (Difluoromethane).
Other means of identification: /
Recommended use of the chemical and restrictions on use: This product is a kind of cryogen.
Supplier's details:
Emergency phone number:

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:
Flammable gases Category 1
Gases under pressure (liquefied gas)
GHS Label elements, including precautionary statements:
Symbol:

Signal word: Danger
Hazard statement(s): Extremely flammable gas. Contains gas under pressure; may explode if heated.
Precautionary statement(s):
Prevention:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response:
Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources.
Storage:
Store in a well-ventilated place. Protect from sunlight.
Disposal: /
Other hazards which do not result in classification: /

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

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

Section 4 FIRST AID MEASURES

Description of necessary first aid measures
If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact: Do not rub affected area. Consult a physician.
In case of eye contact: Rinse thoroughly with plenty of running water for at least 15 minutes and consult a physician.
If ingestion: /

Most important symptoms/effects, acute and delayed: /
Indication of immediate medical attention and special treatment needed, if necessary: /

Section 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Use water spray or carbon dioxide to extinguish.
Special hazards arising from the chemical: Extremely flammable gas. It can form an explosive mixture with air. It can explode when exposed to high heat or open flame.
Special protective actions for fire-fighters: Firefighters must wear air breathing apparatus, fire-fighting suits and protective gloves to extinguish in the upwind direction. Whenever possible, remove the container from the fire to open space and use spray water to cool unopened containers. Shut off gas supply; if not possible and no risk to surroundings, let the fire burn itself out.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: It is recommended that emergency personnel wear protective masks and fire protective overalls. Do not touch the spill directly.
Environmental precautions: Isolate contaminated areas and restrict access.
Methods and materials for containment and cleaning up: Ensure adequate ventilation in leak area.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: There should be sufficient local exhaust in workplace. Operators should be trained and strictly follow the operating procedures. Operators are advised to wear anti-freeze protective clothing and protective gloves. Operators should load and unload lightly during handling to prevent damage to the package. There should be leakage treatment equipment in workplace.
Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well-ventilated warehouse. Keep away from fire and heat. Protect from direct sunlight. It should be stored separately from oxidants, flammable materials, etc., and should not be mixed.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: /
Appropriate engineering controls: Close strictly and provide sufficient local exhaust.
Individual protection measures
Eye/face protection: Wear a protective mask.
Skin protection: Wear anti-freeze protective clothing and wear cold protective gloves.
Respiratory protection: Air respirators should be worn during emergency rescue or evacuation.
Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquefied gas in cylinder.
Colour	Colorless.
Odour	/
Melting point/freezing point	-136℃.
Boiling point or initial boiling point and boiling range	-51.7℃.
Flammability	Flammable gas.
Lower and upper explosion limit/flammability limit	12.7%-33.4%.

Flash point	/
Auto-ignition temperature	648℃.
Decomposition temperature	/
pH	/
Kinematic viscosity	/
Solubility	/
Partition coefficient: n-octanol/water (log value)	/
Vapour pressure	1705kPa (25℃).
Density and/or relative density	1.10.
Relative vapour density	1.8.
Particle characteristics	/

Section 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: This material is stable in normal temperature.

Possibility of hazardous reactions: /

Conditions to avoid: Spark, high temperature and static electricity.

Incompatible materials: Flammable materials and oxidizers.

Hazardous decomposition products: Oxycarbides and hydrogen fluoride.

Section 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Skin/eye exposure and inhalation.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects:

Skin contact can cause cryogenic burns and frostbite.

Inhalation can cause cough, throat irritation and suffocation.

Eyes contact can cause cryogenic burns and frostbite.

Chronic health effects: /

Numerical measures of toxicity (such as acute toxicity estimates):

LC50(inhalation, rat): >760000 ppm 4h

Section 12 ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial, where available):

Endpoint	Test Duration (hr)	Species	Value
LC50	96	Fish	>81.8mg/L
EC50	48	Crustacea	>97.9mg/L
EC50	72	Algae or other aquatic plants	>114mg/L
NOEC	96	Fish	10mg/L

Persistence and degradability: Low.

Bioaccumulative potential: Low (LogKOW = 0.2).

Mobility in soil: Low (KOC = 23.74).

Other adverse effects: /

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods: Dispose this product by safe burial. Damaged containers are prohibited from being reused and should be buried in the prescribed place.

Section 14 TRANSPORT INFORMATION

UN number: 3252.
UN proper shipping name: DIFLUOROMETHANE (REFRIGERANT GAS R32).
Transport hazard class(es): 2.1.
Packing group, if applicable: /
Environmental hazards: /
Special precautions for user: /
Transport in bulk according to IMO instruments: /

Section 15 REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB/T 16483-2008, GB 13690-2009, GB 18218-2018, GB 15258-2009, GB 6944-2012, GB 190-2009, GB/T 191-2008, GB 12268-2012, GB/T 15098-2008, GBZ 2.1-2019, GBZ 2.2-2007 as well as the following regulations: Railway Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

Section 16 OTHER INFORMATION

References	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
Form Date	20-Jan-2021

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer/supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.