

SAFETY DATA SHEET

According to B.E. 2555 (2012)

Version 1
Product Name Difluoromethane (R32)

Issue Date 27-Jul-2015
Revision date 01-Mar-2017

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Difluoromethane (R32)

Other means of identification

Synonyms HFC-32, R32

Recommended use of the chemical and restrictions on use

Recommended Use Refrigerant
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Sinochem Lantian Fluoro Materials Co., Ltd.
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2. HAZARDS IDENTIFICATION

GHS Classification

Flammable gases Category 1 - (H220)
Gases under pressure Liquefied gas - (H280)

Label elements

Symbols/Pictograms



Signal word Danger
Hazard Statements H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated
Precautionary Statements P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P410 + P403 - Protect from sunlight. Store in a well-ventilated place

Other hazards

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS**Description Substance**

Chemical Name	CAS No	Weight-%
Methylene fluoride	75-10-5	>=99.0

4. FIRST AID MEASURES**Description of first aid measures**

General advice	Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam.
Unsuitable extinguishing media	Do not use straight streams.

Specific hazards arising from the chemical

Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

Protective equipment and precautions for firefighters

Evacuate personnel to safe areas. Move containers from fire area if you can do it without risk. Cool drums with water spray. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Stay upwind. Ensure adequate ventilation, especially in confined areas.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Evacuate personnel to safe areas
Ensure adequate ventilation, especially in confined areas
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area)
Avoid contact with skin, eyes or clothing

Contaminated work clothing should not be allowed out of the workplace
 Do not breathe gas/vapors
 Use personal protection recommended in Section 8
 Wash thoroughly after handling

Environmental precautions

Local authorities should be advised if significant spillages cannot be contained
 Prevent entry into waterways, sewers, basements or confined areas

Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13)

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice
 Ensure adequate ventilation, especially in confined areas
 Avoid contact with skin, eyes or clothing
 Wash contaminated clothing before reuse
 Do not breathe gas/vapors
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Do not eat, drink or smoke when using this product
 Use personal protection recommended in Section 8
 Wash thoroughly after handling

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place
 Keep away from heat, sparks, flame and other sources of ignition
 Keep locked up and out of reach of children
 Keep away from food, drink and animal feeding stuffs
 Store in accordance with local regulations

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	Latvia	France	Finland	Germany	Italy
Methylene fluoride (CAS #: 75-10-5)	TWA: 2 ppm TWA: 20 mg/m ³	-	-	-	-

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Showers. Eyewash stations. Remove all sources of ignition.

Individual protection measures, such as personal protective equipment

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand Protection	Wear protective gloves.
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Gas
Color	Colorless
Odor	Slightly ethers aroma
Odor Threshold	Not determined

pH	ca. 7
Melting point/freezing point	-136 °C
Boiling point / boiling range	57.1 °C
Flash point	Not determined
Evaporation rate	Not determined
Flammability (gas)	Highly flammable liquid and vapor
Flammability Limit in Air	14 - 33% (V/V)
Vapor Pressure	1702 kPa (25 °C)
Vapor density	1.8
Density	1.1 mg/L
Relative density	Not determined
Bulk density	Not determined
Specific gravity	Not determined
Water solubility	0.44% (25 °C, 1709 kPa)
Partition coefficient (LogPow)	0.2
Autoignition temperature	648 °C
Decomposition temperature	>25 °C
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Heating may cause a fire or explosion. May form explosive peroxides.
Oxidizing properties	Not determined

Other information

No information available.

10. STABILITY AND REACTIVITY**Reactivity**

No information available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Heating may cause a fire or explosion. May form explosive peroxides.

Conditions to avoid

Strong heating. Heat, flames and sparks. Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Strong bases. Alkali metals.

Hazardous Decomposition Products

Hydrogen fluoride, carbonyl fluoride.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methylene fluoride (CAS #: 75-10-5)	-	-	= 1890 g/m ³ (Rat) 4 h

Skin corrosion/irritation

Non-irritating to the skin.

Serious eye damage/eye irritation

No eye irritation.

Sensitization

No sensitization responses were observed.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Fish: LC50 = 1507 mg/L/ 96 h(freshwater fish)

Aquatic invertebrates: EC50 = 652 mg/L/ 48 h(daphnid)

Algae: EC50 = 142 mg/L/ 96 h(green algae)

Persistence and degradability

Not readily biodegradable.

Bioaccumulation

No information available.

Mobility

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

UN Number

3252

Proper shipping name

DIFLUOROMETHANE (REFRIGERANT GAS R 32)

Hazard Class

2.1

Packing Group	II
Environmental hazards	Non-marine pollutant
Special precautions	No information available
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Methylene fluoride 75-10-5 ($\geq 99.0\%$)	X	-	X	X	X	X	X	X

"-" Not Listed

"X" Listed

16. OTHER INFORMATION

Revision Note

Issue Date	27-Jul-2015
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Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - China Inventory of Existing Chemical Substances

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given 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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

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