

Difluoromethane

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date:1/2/2024 Revision date:1/2/2024 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Trade name : Difluoromethane
CAS-No. : 75-10-5

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Used as a refrigerant.

1.2.2. Uses advised against

Restrictions on use : No information available

1.3. Details of the supplier of the safety data sheet

Supplier

SINOCHEM ENVIRONMENTAL PROTECTION CHEMICALS (TAICANG)
CO., LTD.
NO.18, BINJIANG ROAD, SHIHUA INDUSTRIAL PARK, TAICANG
PORT,JIANGSU, P.R.OF CHINA
312369
T +86-571-87397255 - F +86-571-88900147
zhuxiaodong@sinochem.com

Importer



1.4. Emergency telephone number

Emergency number : +86-532-83889090

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable gases, Category 1 H220
Gases under pressure : Liquefied gas H280
Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

Contains gas under pressure; may explode if heated. Extremely flammable gas.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS02

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

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EUH-statements : None.

2.3. Other hazards

Other hazards which do not result in classification : No information available.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Difluoromethane	CAS-No.: 75-10-5 EC-No.: 200-839-4	≥ 99.0	Flame. Gas 1, H220 Press. Gas (liq.), H228

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
First-aid measures after 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.
First-aid measures after ingestion	: Not an expected route of exposure. Do not induce vomiting. If swallowed, seek medical advice immediately and show this container or label. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Alcohol resistant foam. Dry chemical. Dry sand. Carbon dioxide (CO2).
Unsuitable extinguishing media	: High volume water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable gas.

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Hazardous decomposition products in case of fire : Thermal decomposition can lead to the release of irritating and toxic gases and vapours, such as carbon monoxide, carbon dioxide, and hydrogen fluoride.

5.3. Advice for firefighters

Firefighting instructions : Eliminate all ignition sources if safe to do so. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Approach from upwind. Evacuate personnel to a safe area. Move containers from fire area if it can be done without personal risk. Cool down the containers exposed to heat with a water spray. Ensure adequate ventilation, especially in confined areas. Self-contained breathing apparatus. Wear personal protective equipment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Access forbidden to unauthorised personnel. Approach from upwind. Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin and clothing. Keep unnecessary and unprotected personnel away from the spillage. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to a safe area. Eliminate all ignition sources. Evacuate unnecessary personnel. Do not touch or walk on the spilled product. Only qualified personnel equipped with suitable protective equipment may intervene. Use personal protective equipment as required.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Avoid the spillage or runoff entering drains, sewers or watercourses. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Allow the substance to evaporate.
Avoid breathing dust/fume/gas/mist/vapor/spray.
Avoid release to the environment.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Eliminate all ignition sources if safe to do so. Handle in accordance with good industrial hygiene and safety procedures. Do not breathe gas, fumes, vapour or spray. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Prevent the build-up of electrostatic charge. Do not eat, drink or smoke when using this product.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Keep away from open flames, hot surfaces and sources of ignition. Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from heat Keep locked up and out of reach of children Keep away from food, drink and animal feeding stuffs Store in accordance with local regulations.
Storage conditions	: Protect from sunlight. Store in a well-ventilated place. Keep cool.
Incompatible materials	: Strong bases. Alkali metals.

7.3. Specific end use(s)

SDS section 1.2.1 - Additional text.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

Difluoromethane (75-10-5)	
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	2000 mg/m ³

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas;Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure;Eliminate ignition sources.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Wear safety glasses with side shields.

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Colour	: Colourless.
Appearance	: Colorless gas.
Odour	: Slightly ethereal aroma
Odour threshold	: Not available
Melting point	: -136 °C
Freezing point	: Not applicable
Boiling point	: 51.7 °C
Flammability	: Extremely flammable gas.
Flammability limit in air	: 14 - 33% (V/V)
Explosive properties	: There is a danger of explosion in contact with oxidants and can form explosive mixtures with air.
Oxidising properties	: No data available.
Explosive limits	: Not available
Lower explosive limit (LEL)	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: Not applicable
Auto-ignition temperature	: 648 °C
Decomposition temperature	: > 25 °C
pH	: Neutral
Viscosity, kinematic	: Not applicable
Solubility	: Water: 0.44 % @25 °C, 1709 kPa
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 0.2
Vapour pressure	: 1702 kPa @25°C
Vapour pressure at 50 °C	: Not available
Density	: 1.1 g/ml
Relative density	: 1.1
Relative vapour density	: 1.8
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable gas.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

There is a danger of explosion in contact with oxidants and can form explosive mixtures with air

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Incompatible materials

10.5. Incompatible materials

Strong bases. Alkali metals.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide (CO₂). Hydrogen fluoride.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Difluoromethane (75-10-5)	
LC50 Inhalation - Rat	≈ 1107000 mg/m ³
LC50 Inhalation - Rat [ppm]	> 520000 ppm/4h
LC50 Inhalation - Rat	1890 g/m ³ /4 h

Skin corrosion/irritation	: Not classified pH: Neutral
Serious eye damage/irritation	: Not classified pH: Neutral
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Difluoromethane (75-10-5)	
LC50 - Fish	1507 mg/L/ 96 h (freshwater fish)

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Difluoromethane (75-10-5)

EC50 - Crustacea	652 mg/L/ 48 h (daphnid)
EC50 - Algae/aquatic plants	142 mg/L/ 96 h (green algae)

12.2. Persistence and degradability

Not easily biodegradable.

Difluoromethane (75-10-5)

Persistence and degradability	Not easily biodegradable.
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12.3. Bioaccumulative potential

Difluoromethane (75-10-5)

Partition coefficient n-octanol/water (Log Pow)	0.21
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Difluoromethane (75-10-5)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions. Disposal must be done according to official regulations.

Contaminated packaging : Dispose of contents/container in accordance with licensed collector's sorting instructions. Disposal must be done according to official regulations.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3252	UN 3252	UN 3252	UN 3252	UN 3252
14.2. UN proper shipping name				
DIFLUOROMETHANE (REFRIGERANT GAS R 32)	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	Difluoromethane (REFRIGERANT GAS R 32)	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	DIFLUOROMETHANE (REFRIGERANT GAS R 32)

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ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 3252 DIFLUOROMETHANE (REFRIGERANT GAS R 32), 2.1, (B/D)	UN 3252 DIFLUOROMETHANE (REFRIGERANT GAS R 32), 2.1	UN 3252 Difluoromethane (REFRIGERANT GAS R 32), 2.1	UN 3252 DIFLUOROMETHANE (REFRIGERANT GAS R 32), 2.1	UN 3252 DIFLUOROMETHANE (REFRIGERANT GAS R 32), 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: 2F
Special provisions (ADR)	: 662
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P200
Mixed packing provisions (ADR)	: MP9
Portable tank and bulk container instructions (ADR)	: (M), T50
Tank code (ADR)	: PxBN(M)
Tank special provisions (ADR)	: TA4, TT9
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV9, CV10, CV36
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 23
Orange plates	: 

Tunnel restriction code (ADR)	: B/D
EAC code	: 2YE

Transport by sea

Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P200
Tank instructions (IMDG)	: T50
EmS-No. (Fire)	: F-D
EmS-No. (Spillage)	: S-U
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Flammable colourless gas. Heavier than air(1.8).

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Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: 200
CAO max net quantity (IATA)	: 150kg
Special provisions (IATA)	: A1
ERG code (IATA)	: 10L

Inland waterway transport

Classification code (ADN)	: 2F
Special provisions (ADN)	: 662
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

Rail transport

Classification code (RID)	: 2F
Special provisions (RID)	: 662
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P200
Mixed packing provisions (RID)	: MP9
Portable tank and bulk container instructions (RID)	: T50(M)
Tank codes for RID tanks (RID)	: PxBN(M)
Special provisions for RID tanks (RID)	: TU38, TE22, TA4, TT9, TM6
Transport category (RID)	: 2
Special provisions for carriage - Loading, unloading and handling (RID)	: CW9, CW10, CW36
Colis express (express parcels) (RID)	: CE3
Hazard identification number (RID)	: 23

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Not applicable.

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Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Version : 1.0
Issue date : 1/2/2024
Revision date : 1/2/2024
Data sources : LOLI. ECHA reference.
Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

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Other information : No information available.

Full text of H- and EUH-statements	
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
	None

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.