



Report No.: MND250527QD_EU(En)

Nomination No.: GZP25-010253

Safety Data Sheet (SDS)

Product Name: Difluoromethane; Refrigerant gas R32

Warranty of Design: EU regulation No. 2020/878

Application Company Name: GD Midea Air-conditioning Equipment Co., Ltd.

Application Company Address: Lingang Road, Beijiao, Shunde, Foshan, 528311, Guangdong, China

Contact Information: +86 13690677915

24 Hour Emergency Call: **0570-3097819**

Inspection Date: 2025/05/07

SGS-CSTC Standards Technical Services(Qingdao) Co.,Ltd

Authorised Signatory
2025-05-09



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Safety Data Sheet

Difluoromethane; Refrigerant gas R32

Version: V2.0.0.3
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Revision Date: 2025/05/07

*Prepared according to EU regulation No. 2020/878

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

1.1 Product identifier

Product Name	Difluoromethane; Refrigerant gas R32
CAS No.	75-10-5
EC No.	200-839-4
Molecular Formula	CH ₂ F ₂
REACH Registration Number	-
UFI	Not applicable

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

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet

Applicant Name	GD Midea Air-conditioning Equipment Co., Ltd.
Applicant Address	Lingang Road, Beijiao, Shunde, Foshan, 528311, Guangdong, China
Applicant Post Code	—
Applicant Telephone	+86 13690677915
Applicant Fax	—
Applicant E-mail	liaohb15@midea.com
Supplier Name	Zhejiang Quhua Fluor-chemistry Co.,Ltd.
Supplier Address	Inside Juhua Group Company, Kecheng District, Quzhou City, Zhejiang Province
Supplier Post Code	—
Supplier Telephone	0570-3614400
Supplier Fax	0570-3098687
Supplier E-mail	fhgsb@juhua.com.cn

1.4 Emergency telephone number

Emergency telephone number	0570-3097819
Opening hours	24h

2 Hazards identification

2.1 CLP classification according to Regulation (EC) No. 1272/2008

Flammable gases	Category 1B, Flammable Gas
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Gases Under Pressure	Liquefied gas
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2.2 Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H221	Flammable gas
H280	Contains gas under pressure; may explode if heated

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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Response

P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	In case of leakage, eliminate all ignition sources.

Storage

P403	Store in a well-ventilated place.
P410+P403	Protect from sunlight. Store in a well-ventilated place.

Disposal

Disposal	Not applicable
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2.3 Other hazards

Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Difluoromethane	Insufficient information, temporarily unable to evaluate

Results of endocrine disrupting properties assessment

Component	Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]
Difluoromethane	Insufficient information, temporarily unable to evaluate

Other

	Not applicable.
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3 Composition/information on ingredients

3.1 Substance/mixture

	Substance
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Component	Volume % content(or range)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific Conc. Limits, M-factors
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Difluoromethane CAS: 75-10-5 EC: 200-839-4 Index No.: -	≥ 99.80	Flammable gases, Category 1B, Flammable Gas, H221; Gases Under Pressure, Liquefied gas, H280	-
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4 First-aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of soap and water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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4.3 Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Small fire: dry chemical or CO ₂ ; Large fire: water spray or fog; Fire involving tanks: fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. cool containers with flooding quantities of water until well after fire is out.
Unsuitable extinguishing media	Do not extinguish a leaking gas fire unless leak can be stopped. Fire involving tanks: do not direct water at source of leak or safety devices, icing may occur.

5.2 Specific hazards arising from the substance or mixture

1	Flammable: will be easily ignited by heat, sparks or flames.
2	Will form explosive mixtures with air.
3	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
4	Vapours may travel to source of ignition and flash back.
5	Development of hazardous combustion gases or vapor possible in the event of fire.
6	May expansion or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full
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	protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Use personal protective equipment, do not breathe gas.
6	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
7	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1	All equipment used in the work should be grounded.
2	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
3	Spray water inhibits vapor or changes the direction of vapor cloud flow.
4	Do not allow spills to come into contact with combustible materials such as wood, paper, oil, etc.
5	Do not touch or cross spills.
6	Isolate the leak area until the gas is exhausted.
7	Cut off the source of the leak as much as possible.
8	Keep leaks in a ventilated place.
9	Do not use water directly to impact spills or sources of leakage.
10	Wear a cold suit when the liquefied gas leaks.
11	A large number of leaks: The warning zone is delineated according to the area affected by the gas, and the unrelated personnel are evacuated from the crosswind and the upwind to the safe zone.
12	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
13	Prevent gas from diffusing through sewers, ventilation systems, and confined spaces.

6.4 Reference to other sections

1	Personal Protective Equipment advice is contained in Section 8 of the SDS.
2	Disposal considerations advice is contained in Section 13 of the SDS.

7 Handling and storage

7.1 Precautions for safe handling

◆ Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.

3	Avoid contact with skin and eyes.
◆ Measures to prevent fire	
1	Use only non-sparking tools.
2	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
3	Use explosion proof equipment.
4	Keep away from heat/sparks/open flames/ hot surfaces.
◆ Measures to prevent aerosol and dust generation	
1	Not applicable.
◆ Advice on general occupational hygiene	
1	Wash hands and face after using the substances.
2	Replace the contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

7.3 Specific end use(s)

1	In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.
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8 Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values	No relevant regulations
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◆ Biological limit values

Biological limit values	No relevant regulations
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◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 series standard Determination of toxic substances in workplace air.

◆ Derived No effect level (DNEL)

Component	Route of exposure	DNEL for Workers			
		Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Difluoromethane	Inhalation	No data available	No data available	No data available	7035 mg/m ³
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)

Predicted No Effect Concentration (PNEC)	No information available
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8.2 Exposure controls

8.2.1 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

8.2.2 Personal protection equipment

General requirement	    
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Appropriate respiratory protective equipment must be worn. When the oxygen concentration is unknown, a self-contained atmosphere-supplying respiratory protective apparatus must be worn.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

8.2.3 Environmental exposure controls

Environmental exposure controls	No information available
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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Gas
Colour	Colorless
Odor	Taste similar to ether
Odor threshold	No information available
pH	Not applicable
Melting point/freezing point(°C)	-136
Initial boiling point and boiling range(°C)	-51.7
Flash point(Closed cup, °C)	Not applicable
Evaporation rate	Not applicable
Flammability	Flammable
Upper/lower explosive limits[% (v/v)]	Upper limit: 29.9; Lower limit: 13.8
Vapor pressure(kPa)	Not applicable
Vapor density(Air = 1)	1.8
Relative density(Water=1)	1.1
Solubility(mg/L)	Solubility in water 4.4g/l (25 ° C), soluble in lipids.
n-octanol/water partition coefficient	Not applicable
Auto-ignition temperature(°C)	No information available
Decomposition temperature(°C)	No information available
Kinematic viscosity(mm ² /s)	Not applicable

Explosive properties	No information available
Oxidizing properties	No information available
Particle characteristics	Not applicable

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Information with regard to physical hazard classes	No information available
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9.2.2 Other safety characteristics

Other safety characteristics	No information available
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10 Stability and reactivity

Stability and reactivity

10.1 Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
10.2 Chemical stability	Stable under proper operation and storage conditions.
10.3 Possibility of hazardous reactions	No information available.
10.4 Conditions to avoid	Incompatible materials, heat, flame and spark.
10.5 Incompatible materials	No information available.
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

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

Difluoromethane(Component)	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
Difluoromethane	No information available	No information available	1890mg/L(Rat)

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
Difluoromethane	Not Listed	Not Listed

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

Component	Endocrine disrupting properties
Difluoromethane	No information available

11.2.2 Other Information

Other Information	See Section 11.1
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12 Ecological information**12.1 Toxicity****Acute aquatic toxicity**

Component	Fish	Crustaceans	Algae
Difluoromethane	LC ₅₀ : 1731mg/L (96h)(Fish)	No information available	No information available

Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
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12.2 Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
Difluoromethane	Low	Low

12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Difluoromethane	Low	Log Kow=0.2

12.4 Mobility in soil

Component	Mobility in soil	Soil Organic Carbon-Water Partitioning Coefficient (Koc)
Difluoromethane	Low	23.74

12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Difluoromethane	Insufficient information, temporarily unable to evaluate

12.6 Endocrine disrupting properties

Component	Endocrine disrupting properties
Difluoromethane	No information available

12.7 Other adverse effects

	No information available
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13 Disposal considerations

13.1 Waste treatment methods

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	
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IMDG-CODE

UN number	3252
UN proper shipping name	DIFLUOROMETHANE(REFRIGERANT GAS R 32)
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	The packagings must conform to package instructions of UN number
Marine pollutant (Yes or no)	No

IATA-DGR

UN number	3252
UN proper shipping name	DIFLUOROMETHANE(REFRIGERANT GAS R 32)
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	The packagings must conform to package instructions of UN number

UN-ADR

UN number	3252
UN proper shipping name	DIFLUOROMETHANE
Transport hazard class	2.1
Transport subsidiary hazard class	None
Packing group	The packagings must conform to package instructions of UN number

Maritime transport in bulk according to IMO instruments

- ◆ Transport in bulk according to Annex II of MARPOL and the IBC code

	Not Available
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- ◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available
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- ◆ Transport in bulk in accordance with the IGC Code

	Not Available
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15 Regulatory information

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

International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIICS	ENCS
Difluoromethane	✓	✓	✓	✓	✓	✓	✓	✓	✓

[EC inventory]	European Inventory of Existing Commercial Chemical Substances
[TSCA]	United States Toxic Substances Control Act Inventory
[DSL]	Canadian Domestic Substances List
[IECSC]	China Inventory of Existing Chemical Substances
[NZIoC]	New Zealand Inventory of Chemicals
[PICCS]	Philippines Inventory of Chemicals and Chemical Substances
[KECI]	Korea Existing Chemicals Inventory
[AIICS]	Australian. Inventory of Industrial Chemical (AIICS)
[ENCS]	Japan Inventory of Existing & New Chemical Substances

European chemical inventory

Component	A	B	C	D	E	F	G	H	I
Difluoromethane	×	×	×	✓	✓	×	×	×	×

[A]	Candidate list of Substances of Very High Concern for authorization under EU REACH regulation
[B]	Substances requiring authorisation under EU REACH regulation
[C]	Substances restricted under EU REACH
[D]	Pre-registered substances under EU REACH
[E]	Registered substances under EU REACH
[F]	Substance Evaluation – CoRAP under EU REACH
[G]	List of priority substances under EU water policy (Directive 2455/2001/EC)
[H]	Substances subject to POPs Regulation
[I]	Substances proposed as POPs

Note:

- “✓” Indicates that the substance included in the regulations.
 “×” No data or not included in the regulations.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16 Other information

Information on revision

Creation Date	2025/04/18
Revision Date	2025/05/07
Reason for revision	-

Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.

- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
[7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
[8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{ow}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.