

Safety Data Sheet

DICHLOROFLUOROETHANE HCFC-141b

Creation Date: 2022/09/12 Revision

Date: 2022/09/12

*According to GHS (Ninth Revised Edition)

1 Identification

Product identifier

Product Name	DICHLOROFLUOROETHANE HCFC-141b
Product Model	HCFC-141b
CAS No.	1717-00-6
EC No.	605-613-2
Molecular Formula	C ₂ H ₃ Cl ₂ F

Recommended use of the product and restrictions on use

Relevant identified uses	Refrigerating fluid.
Uses advised against	No special instructions.

Details of the supplier

Supplier Name	ICOOL Chemical Co., Ltd.
Supplier Address	No.185 Tonghui Road, Jiangbei District, Ningbo, China
Supplier Post Code	315000
Supplier Telephone	0574-87432764
Supplier Fax	---
Supplier E-mail	---

Emergency phone number


Emergency phone number	0574-87432764
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2 Hazard(s) identification

Hazard classification according to GHS

Hazardous To The Aquatic Environment – Long-Term (Chronic) Hazard	Category 3
Hazardous To The Ozone Layer	Category 1

GHS Label elements

Hazard pictograms	
Signal word	Warning

Hazard statements

H412	Harmful to aquatic life with long lasting effects
H420	Harms public health and the environment by destroying ozone in the upper atmosphere

Precautionary statements

Prevention

P273	Avoid release to the environment.
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Response

Response	Not applicable
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Storage

Storage	Not applicable
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Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
P502	Refer to manufacturer or supplier for information on recovery or recycling.

Hazard description

Physical and chemical hazards

	No information available
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Health hazards

Inhaled	Drowsiness. Confusion. Unconsciousness.
Ingestion	Accidental ingestion of the product may be harmful to the health of the individual.
Skin Contact	Redness. Pain.
Eye	Redness. Pain.

Environmental hazards

	This product is harmful to aquatic life with long lasting effects. Please refer to 12th chapter of SDS.
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3 Composition/information on ingredients

Substance/mixture

	Substance
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Component	CAS No.	EC No.	Concentration (wt, %)
DICHLOROFLUOROETHANE	1717-00-6	605-613-2	≥ 99.5

4 First-aid measures

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 with plenty of water (remove contact lenses if easily possible).
Skin contact	Rinse and then wash skin with water and soap.
Ingestion	Do NOT induce vomiting.
Inhalation	Fresh air, rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

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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Indication of any immediate medical attention and special treatment needed

1	Treats symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Use extinguishing media suitable for surrounding area.
Unsuitable extinguishing media	There is no restriction on the type of extinguisher which may be used.

Specific hazards arising from the substance or mixture

1	Development of hazardous combustion gases or vapor possible in the event of fire.
2	May expand or decompose explosively when heated or involved in fire.

Special protective equipment and precautions for fire-fighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full 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

Personal precautions, protective equipment and emergency procedures

1	Use personal protective equipment, do not breathe gas/mist/vapour/spray.
2	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
3	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

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

Methods and materials for containment and cleaning up

1	Cut off the source of the leak as much as possible.
2	Keep leaks in a ventilated place.
3	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.

4	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
5	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.

7 Handling and storage

Precautions for safe handling

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.
4	Keep away from heat/sparks/open flames/ hot surfaces.

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.

8 Exposure controls/personal protection

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.

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	Set up emergency exit and necessary risk-elimination area.
4	Handle in accordance with good industrial hygiene and safety practice.

Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear appropriate chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear appropriate chemical protective clothing and chemical resistant shoes.

9 Physical and chemical properties and safety characteristics

Physical and chemical properties

Physical state	Liquid
Colour	Colorless transparant
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	-103.5
Initial boiling point and boiling range(°C)	32
Flash point(Closed cup,°C)	No information available
Evaporation rate	No information available
Flammability	Not applicable
Upper/lower explosive limits[%(v/v)]	Upper limit: 17.7; Lower limit: 5.6
Vapor pressure	76.3 (25癩)
Relative vapour density(Air = 1)	4.0
Relative density(Water=1)	1.24 (21癩)
Solubility	Insoluble in water
n-octanol/water partition coefficient	2.3
Auto-ignition temperature(°C)	530~550
Decomposition temperature(°C)	No information available
Kinematic viscosity	No information available
Particle characteristics	Not applicable

10 Stability and reactivity**Stability and reactivity**

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

11 Toxicological information**Acute toxicity**

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
DICHLOROFLUOROETHANE	> 5000mg/kg(Rat)	> 2000mg/kg(Rabbit)	No information available

Carcinogenicity

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

Others

DICHLOROFLUOROETHANE(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
Reproductive	Based on available data, the classification criteria are not met

12 Ecological information

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
DICHLOROFLUOROETHANE	LC ₅₀ : 158mg/L (96h)(Fish)	EC ₅₀ : 31.2mg/L (48h)(Crustaceans)	No information available

Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
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Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
DICHLOROFLUOROETHANE	High	High

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
DICHLOROFLUOROETHANE	Low	Log Kow=2.3

Mobility in soil

Component	Mobility in soil	Soil Organic Carbon-Water Partitioning Coefficient (Koc)
DICHLOROFLUOROETHANE	Low	48.64

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	Insufficient information, temporarily unable to evaluate
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13 Disposal considerations

Disposal considerations

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

Transporting Label	Not applicable
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IMDG-CODE

IMDG-CODE	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
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ICAO/IATA-DG

IATA-DGR	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
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UN-ADR

UN-ADR	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
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15 Regulatory information

International chemical inventory

Component	EC inven to ry	TSCA	DSL	IECS C	NZIo C	PICCS	KECI	AIICS	ENC S
DICHLOROFLUOROETH ANE	x	√	√	√	√	√	√	√	√

[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

Note:

“√”	Indicates that the substance included in the regulations.
“x”	No data or not included in the regulations.

16 Other information

Information on revision

Creation Date	2022/09/12
Revision Date	2022/09/12

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/substancesearch/index.action>.
- [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-	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG	International Maritime Dangerous Goods
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	ACGI	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 UN GHS (the 9th revised edition). 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.