

Material Safety Data Sheet



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Section 1: Chemical Product / Company Identification

Trade name **HCFC-141b**
Synonym 1,1, -dichloro-1-fluoroethane

Company identification
Manufacturer DAIKIN INDUSTRIES, LTD.CHEMICAL DIVISION:
Umeda Center Bldg., 4-12, Nakazaki-Nishi2-chome, Kita-Ku, Osaka, JAPAN
PHONE: (+81) 6-6373-4349 Fax: (+81) 6-6373-4389

Supplier in EU DAIKIN CHEMICAL EUROPE GmbH
ImmermannStr.65 d, 40210 Düsseldorf, GERMANY
Phone: (+49) 211-1640-834. Fax: (+49) 211-1640-734,

Supplier in US DAIKIN AMERICA,INC.
20 Olympic Drive, Orangeburg, New York 10962
Phone: +1-800-365-9570

Emergency telephone
Company +81-6-6373-4349, +49-211-179 225 0, +1-845-365-9500

Section 2: Composition / information on ingredients

Component	mass %	CAS No.	Symbols	R-Phrase
1,1, -dichloro-1-fluoroethane (HCFC-141b)	>99.5	1717-00-6	N	52/53-59

Section 3: Hazard identification

Potential Health Effects:

Non-flammable material.

This product may cause asphyxia if released in a confined area.

Rapidly evaporating liquid may cause frostbite.

WARNING:

Toxic gases (such as HF, CO) will be produced if this product is decomposed by heat.

Section 4: First aid measures

Inhalation Remove to fresh air. Keep warm and at rest.
If breathing has stopped, give artificial respiration.
Use oxygen as required, provided a qualified operator is available.

Skin Contact Wash with lukewarm water (not hot).
Consult a physician if frostbitten by liquid or if irritation occurs.

Eyes Contact Flush with plenty of water for several minutes (remove contact lenses if easily possible). Consult a physician.

Ingestion Ingestion is not considered a potential route of exposure.

SECTION 5: Fire-fighting measures

Extinguishing Media Water Fog, Dry Chemical. Alcohol Foam. Carbon Dioxide (CO2).

Fire fighting procedures:

Keep personnel removed and upwind of fire.

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Water may be used to cool and protect exposed containers.

Stop the flow of gas if possible.

WARNING:

Hazardous decomposition products including carbon dioxide, carbon monoxide, hydrogen fluoride, toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects.

SECTION 6: Accidental release measures

General Information	Use proper personal protective equipment as indicated in Section 8. Keep personnel not involved with emergency activities removed and upwind.
Spills/Leaks	Protected personnel should shut off leak, if without risk, and provide ventilation.

SECTION 7: Handling and storage

Handling	Use proper personal protective equipment as indicated in Section 8. Use in well ventilated areas. Wash hands thoroughly after handling. Wash clothing after use. Exposure to toxic gases through inhalation can occur if smoking tobacco becomes contaminated by this material. Therefore, do not smoke in the work areas and wash hands and face after handling in order to avoid transfer of the material onto smoking tobacco.
Storage	Keep away from heat, sparks and flames. Keep containers tightly closed in a cool place away from heat, sparks, and flames. Store in a tightly closed container.

SECTION 8: Exposure controls / personal protection

Exposure limits	AIHA WEEL TWA = 500 ppm (2000)
Engineering Controls	Provide local exhaust to prevent accumulation of high concentrations.

Personal Protective Equipment:

Eyes	Wear safety glasses or coverall chemical splash goggles.
Clothing	Wear impervious gloves, apron, pants, and jacket.
Respirators	Wear NIOSH approved respiratory protection, as appropriate.

SECTION 9: Physical and chemical properties

Appearance	colorless liquified gas
Odor	Faint sweetish odor
PH	n.ap
Boiling point/ range	32.2 C
Freezing point	-103.5 C
Flash point	None
Flammable Limits	9.0-15.4 Vol%
Vapor pressure	0.0791 MPa abs at 25 C
Vapor density	4.04 (air=1)
Specific gravity	1.25 at 25 C
Solubility	
- water solubility	0.066g/100g H ₂ O 25 C

SECTION 10: Stability and reactivity

Reactivity	Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to avoid	Ignition sources, excess heat.
Incompatibilities	Avoid contact with strong alkali or alkaline earth metals, finely powdered metals such as aluminum, magnesium or zinc and strong oxidizers, since they may react or accelerate decomposition.
Polymerization	Polymerization will not occur.

THERMAL DECOMPOSITION PRODUCTS:

Hazardous decomposition products including carbon dioxide, carbon monoxide, hydrogen fluoride, toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects.

SECTION 11: Toxicological information

Immediate (acute) effects	Acute Oral (rat) LD50 > 5,000 mg/kg Acute Dermal (rat) LD50 > 2,000 mg/kg
Delayed (subchronic and chronic) effects	2-years NOEL (rat): 1,500 ppm
Carcinogenicity	Not listed by OSHA, NTP, IARC and EC Directive
Genetic studies	In vitro Human Lymphocyte: Negative

SECTION 12: Ecological information

Partition coefficient Log Pow = 2.27
 G.W.P. = 700 (Relative to a value of 1 for carbon dioxide at 100 years.)
 O.D.P = 0.11 (Relative to a value of 1.0 for CFC-11)

(O.D.P :Ozone Depletion Potential, G.W.P: Global warming potential)

SECTION 13: Disposal considerations

Best to recover and recycle.
 If this is not possible, destruction is to be in an approved facility which is equipped to absorb and neutralise acid gases and other toxic processing products.
 Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

SECTION 14: Transport information

UN No.: Not applicable
 ICAO/IATA
 -primary: Not regulated

IMDG
 -primary: Not regulated

SECTION 15: Regulatory information

NFPA-HMIS RATINGS (SCALE 0-4):HEALTH=2, FIRE=0, REACTIVITY=1

EC Classification: EXTREMELY FLAMMABLE

Hazard Symbol	N
Risk Phrases	52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases	59: Dangerous for the ozone layer. 59: Refer to manufacturer/supplier for information on recovery/recycling. 61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

SECTION 16: Other information

TSCA Inventory	listed
JAPAN (ENCS)	listed
KOREA	listed
Philippine (PICCS)	listed

This product is not designed, manufactured, or intended for medical uses, including implantation to the body or other applications in direct contact with body fluids or tissues.
 Do not use for non-industrial applications.

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. The information does not relate to use in combination with any other material or in any process.

DAIKIN INDUSTRIES, LTD.CHEMICAL DIVISION:
 homepage: <http://www.daikin.co.jp/chm/intro/index.html>