

## Chemical Safety Data Sheet MSDS / SDS

## Chloropentafluoroethane SDS

Revision Date:2024-04-25 Revision Number:1

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

Product name: Chloropentafluoroethane

CAS: 76-15-3

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

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Not classified.

## GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H280 Contains gas under pressure; may explode if heated

Precautionary statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

**Substance**

Chemical name: Chloropentafluoroethane

Common names and synonyms: Chloropentafluoroethane

CAS number: 76-15-3

EC number: 200-938-2

Concentration: 100%

## SECTION 4: First aid measures

### Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

#### Following skin contact

ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention .

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Vapors may cause dizziness or asphyxiation without warning. Vapors from liquefied gas are initially heavier than air and spread along ground. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire may produce irritating, corrosive and/or toxic gases. (ERG, 2016)

### Indication of immediate medical attention and special treatment needed, if necessary

Victims of freon inhalation require management for hypoxic, CNS anesthetic, & cardiac symptoms. Patients must be removed from the exposure environment, & high flow supplemental oxygen should be utilized. The respiratory system should be evaluated for injury, aspiration, or pulmonary edema & treated appropriately. CNS findings should be treated supportively. A calm environment with no physical exertion is imperative to avoid increasing endogenous adrenergic levels. Exogenous adrenergic drugs must not be used to avoid inducing sensitized myocardial dysrhythmias. Atropine is ineffective in treating bradyarrhythmias. For ventricular dysrhythmias, diphenylhydantoin & countershock may be effective. Cryogenic dermal injuries should be treated by water bath rewarming at 40-42 deg C until vasodilatory flush has returned. Elevation of the limb & standard frostbite management with late surgical debridement should be utilized. Ocular exposure requires irrigation & slit lamp evaluation for injury. Freons

## SECTION 5: Firefighting measures

### Suitable extinguishing media

If material on fire or involved in fire: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible.

### Specific hazards arising from the chemical

Excerpt from ERG Guide 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2016)

### Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep cylinder cool by spraying with water.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ventilation. NEVER direct water jet on liquid. Personal protection: chemical protection suit including self-contained breathing apparatus.

### Environmental precautions

Ventilation. NEVER direct water jet on liquid. Personal protection: chemical protection suit including self-contained breathing apparatus.

### Methods and materials for containment and cleaning up

Ventilation. Never direct water jet on liquid. Personal protection: chemical protection suit including self-contained breathing apparatus.

## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

**Conditions for safe storage, including any incompatibilities**

Fireproof if in building. Cool. Fireproof if in building. Cool.

**SECTION 8: Exposure controls/personal protection**

**Control parameters**

**Occupational Exposure limit values**

TLV: 1000 ppm as TWA

**Biological limit values**

no data available

**Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**

Wear safety goggles or eye protection in combination with breathing protection.

**Skin protection**

Cold-insulating gloves.

**Respiratory protection**

Use ventilation.

**Thermal hazards**

no data available

**SECTION 9: Physical and chemical properties and safety characteristics**

Physical state:	Chloropentafluoroethane is a colorless odorless gas with an ether-like odor. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.
Colour:	Colorless gas
Odour:	Odorless
Melting point/freezing point:	30-31 °C
Boiling point or initial boiling point and boiling range:	-39 °C
Flammability:	Nonflammable Gas
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	70 °C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	0.193 cP at 25 deg C (liquid); 0.0125 cP at 25 deg C, 101.3 kPa (vapor)
Solubility:	0.006 % at 77° F (NIOSH, 2016)
Partition coefficient n-octanol/water:	log Kow = 2.47 (est)
Vapour pressure:	7.9 atm at 70° F (NIOSH, 2016)
Density and/or relative density:	1.568 g/cm <sup>3</sup>

Relative vapour density:	8.37 g/L at -39.1 deg C
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Decomposes on contact with hot surfaces or flames. This produces toxic fumes including hydrogen chloride and hydrogen fluoride.

### Chemical stability

Has good thermal stability.

### Possibility of hazardous reactions

NonflammableThe vapour is heavier than air and may accumulate in lowered spaces causing a deficiency of oxygen.**CHLOROPENTAFLUOROETHANE** is incompatible with the following: Alkalis, alkaline earth metals (e.g., aluminum powder, sodium, potassium, zinc) (NIOSH, 2016).

### Conditions to avoid

no data available

### Incompatible materials

Alkalis, alkaline earth metals (e.g., aluminum powder, sodium, potassium, zinc).

### Hazardous decomposition products

When heated to decomposition it emits toxic vapors of /hydrogen fluoride and hydrogen chloride/.

## SECTION 11: Toxicological information

### Acute toxicity

Oral: no data available

Inhalation: no data available

Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

Rapid evaporation of the liquid may cause frostbite.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

A harmful concentration of this gas in the air will be reached very quickly on loss of containment.



## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### Persistence and degradability

AEROBIC: Highly chlorinated/fluorinated compounds are not expected to biodegrade rapidly(1).

### Bioaccumulative potential

An estimated BCF of 20 was calculated in fish for chloropentafluoroethane(SRC), using an estimated log Kow of 2.47(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of chloropentafluoroethane can be estimated to be 200(SRC). According to a classification scheme(2), this estimated Koc value suggests that chloropentafluoroethane is expected to have moderate mobility in soil.

### Other adverse effects

no data available

## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: UN1020 (For reference only, please check.)

IMDG: UN1020 (For reference only, please check.)

IATA: UN1020 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: CHLOROPENTAFLUORO- ETHANE (REFRIGERANT GAS R 115) (For reference only, please check.)

IMDG: CHLOROPENTAFLUORO- ETHANE (REFRIGERANT GAS R 115) (For reference only, please check.)

IATA: CHLOROPENTAFLUORO- ETHANE (REFRIGERANT GAS R 115) (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 2.2 (For reference only, please check.)

IMDG: 2.2 (For reference only, please check.)

IATA: 2.2 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: (For reference only, please check.)

IMDG: (For reference only, please check.)

IATA: (For reference only, please check.)

### Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

## **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

High concentrations in the air cause a deficiency of oxygen with the risk of unconsciousness or death. Check oxygen content before entering area. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any