

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.1  
Creation Date: July 15, 2019  
Revision Date: April 29, 2024

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Fluorotrichloromethane (Trichlorofluoromethane)

### 1.2 Other means of identification

Product number CCEM500558

Other names -

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou

Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Dermal

Hazardous to the ozone layer, Category 1

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Warning

Hazard statement(s) H312 Harmful in contact with skin

H420 Harms public health and the environment by destroying ozone in the upper atmosphere

Precautionary statement(s)

Prevention P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response P302+P352 IF ON SKIN: Wash with plenty of water/...

P317 Get medical help.

P321 Specific treatment (see ... on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

Storage none

Disposal P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

P502 Refer to manufacturer or supplier for information on recovery or recycling

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name | Common names and synonyms | CAS number | EC number | Concentration |
|---------------|---------------------------|------------|-----------|---------------|
|---------------|---------------------------|------------|-----------|---------------|

|                                                 |                        |         |           |      |
|-------------------------------------------------|------------------------|---------|-----------|------|
| Fluorotrichloromethane (Trichlorofluoromethane) | Trichlorofluoromethane | 75-69-4 | 200-892-3 | 100% |
|-------------------------------------------------|------------------------|---------|-----------|------|

## SECTION 4: First-aid measures

### 4.1 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.

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

no data available

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

no data available

## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### 5.2 Specific hazards arising from the chemical

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

### 5.3 Special protective actions for fire-fighters

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

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Ventilation.

### 6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## SECTION 7: Handling and storage

### 7.1 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.

### 7.2 Conditions for safe storage, including any incompatibilities

Separated from incompatible materials. See Chemical Dangers. Cool.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

TLV: 1000 ppm as STEL; A4 (not classifiable as a human carcinogen). MAK: 5700 mg/m<sup>3</sup>, 1000 ppm; peak limitation category: II(2); pregnancy risk group: C

#### Biological limit values

no data available

### 8.2 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.

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

#### Eye/face protection

Wear safety goggles.

#### Skin protection

Cold-insulating gloves.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

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

|                                                          |                                     |
|----------------------------------------------------------|-------------------------------------|
| Physical state                                           | colourless liquid                   |
| Colour                                                   | no data available                   |
| Odour                                                    | no data available                   |
| Melting point/freezing point                             | -111°C                              |
| Boiling point or initial boiling point and boiling range | 23.8°C                              |
| Flammability                                             | no data available                   |
| Lower and upper explosion limit/flammability limit       | no data available                   |
| Flash point                                              | 2°C                                 |
| Auto-ignition temperature                                | no data available                   |
| Decomposition temperature                                | no data available                   |
| pH                                                       | no data available                   |
| Kinematic viscosity                                      | no data available                   |
| Solubility                                               | In water: insoluble. 0.124 g/100 mL |
| Partition coefficient n-octanol/water                    | 2.53                                |
| Vapour pressure                                          | 89.0 kPa(20°C)                      |
| Density and/or relative density                          | 1.494                               |
| Relative vapour density                                  | no data available                   |
| Particle characteristics                                 | no data available                   |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

The gas is heavier than air. The vapour is heavier than air and may accumulate in lowered spaces causing a deficiency of oxygen. Decomposes on contact with hot surfaces or flames. This produces toxic and corrosive gases of hydrogen chloride (see ICSC 0163), phosgene (see ICSC 0007), hydrogen fluoride (see ICSC 0283) and carbonyl fluoride (see ICSC 0633). Reacts with powdered aluminium, powdered zinc, magnesium shavings, lithium shavings and granular barium.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

## 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**

The liquid may cause frostbite. The substance may cause effects on the cardiovascular system and central nervous system. This may result in cardiac disorders and central nervous system depression. Exposure could cause lowering of consciousness. See Notes.

**STOT-repeated exposure**

The substance defats the skin, which may cause dryness or cracking.

**Aspiration hazard**

On loss of containment this substance can cause suffocation by lowering the oxygen content of the air in confined areas.

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## SECTION 12: Ecological information

### 12.1 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

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 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.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2517 (For reference only, please check.)      IMDG: UN2517 (For reference only, please check.)      IATA: UN2517 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: 1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b) (For reference only, please check.)

IMDG: 1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b) (For reference only, please check.)

IATA: 1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b) (For reference only, please check.)

#### 14.3 Transport hazard class(es)

ADR/RID: 2.1 (For reference only, please check.)

IMDG: 2.1 (For reference only, please check.)

IATA: 2.1 (For reference only, please check.)

#### 14.4 Packing group, if applicable

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

#### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

#### 14.6 Special precautions for user

no data available

#### 14.7 Transport in bulk according to IMO instruments

no data available

### SECTION 15: Regulatory information

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

| Chemical name                                                            | Common names and synonyms | CAS number | EC number |
|--------------------------------------------------------------------------|---------------------------|------------|-----------|
| Trichlorofluoromethane                                                   | Trichlorofluoromethane    | 75-69-4    | 200-892-3 |
| 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.   |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                           |            | Listed.   |
| Vietnam National Chemical Inventory                                      |                           |            | Listed.   |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                           |            | Listed.   |
| Korea Existing Chemicals List (KECL)                                     |                           |            | Listed.   |

### SECTION 16: Other information

#### Information on revision

Creation Date July 15, 2019

Revision Date April 29, 2024

#### 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



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High concentrations in the air cause a deficiency of oxygen with the risk of unconsciousness or death. Check oxygen content before entering area. The occupational exposure limit value should not be exceeded during any part of the working exposure. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

**Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)**

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