

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2  
Creation Date: July 15, 2019  
Revision Date: August 08, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name 2,2,4-Trimethylpentane

### 1.2 Other means of identification

Product number LCEM501322-TE  
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

Carcinogenicity, Category 2  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Warning  
Hazard statement(s) H351 Suspected of causing cancer  
H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P203 Obtain, read and follow all safety instructions before use.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P273 Avoid release to the environment.  
P318 IF exposed or concerned, get medical advice.  
P391 Collect spillage.  
P405 Store locked up.  
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.

Response

Storage

Disposal

### 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 |
|---------------------|---------------------------|------------|-----------|---------------|
| Tetrachloroethylene | Tetrachloroethylene       | 127-18-4   | 204-825-9 | 100%          |

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|                        |   |          |   |             |
|------------------------|---|----------|---|-------------|
| 2,2,4-Trimethylpentane | - | 540-84-1 | - | 10000.0 ppm |
|------------------------|---|----------|---|-------------|

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

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

#### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

#### 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. Do NOT induce vomiting. Refer immediately for medical attention.

### 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

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## 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. Risk of fire and explosion on contact with metals. See Chemical Dangers.

### 5.3 Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

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## SECTION 6: Accidental release measures

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

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance and complete protective clothing. Ventilation. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### 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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. NO contact with hot surfaces or finely divided metals. NO contact with metals. See Chemical Dangers 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 metals, ignition sources and food and feedstuffs. See Chemical Dangers. Keep in the dark. Keep in a well-ventilated room. Dry. Cool.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

TLV: 25 ppm as TWA; 100 ppm as STEL; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued.MAK: 69 mg/m<sup>3</sup>, 10 ppm; peak limitation category: II(2); skin absorption (H); carcinogen category: 3B; pregnancy risk group: C.EU-OEL: 138 mg/m<sup>3</sup>, 20 ppm as TWA; 275 mg/m<sup>3</sup>, 40 ppm as STEL; (skin)

#### 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 or face shield.

#### Skin protection

Protective gloves. Protective clothing.

#### 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                                           | Liquid.                                                                                                                                                                              |
| Colour                                                   | Colourless.                                                                                                                                                                          |
| Odour                                                    | no data available                                                                                                                                                                    |
| Melting point/freezing point                             | -22 °C. Atm. press.: Ca. 101.3 kPa.                                                                                                                                                  |
| Boiling point or initial boiling point and boiling range | 121.4 °C. Atm. press.: 101.325 kPa.                                                                                                                                                  |
| Flammability                                             | no data available                                                                                                                                                                    |
| Lower and upper explosion limit/flammability limit       | no data available                                                                                                                                                                    |
| Flash point                                              | 27.4 °C                                                                                                                                                                              |
| Auto-ignition temperature                                | > 650 °C. Atm. press.: Ca. 1 atm. Remarks: No atmospheric pressure is known.                                                                                                         |
| Decomposition temperature                                | no data available                                                                                                                                                                    |
| pH                                                       | no data available                                                                                                                                                                    |
| Kinematic viscosity                                      | dynamic viscosity (in mPa s) = 1.114. Temperature: 0.0 °C.; dynamic viscosity (in mPa s) = 0.844. Temperature: 25.0 °C.; dynamic viscosity (in mPa s) = 0.663. Temperature: 50.0 °C. |
| Solubility                                               | Insoluble in water                                                                                                                                                                   |
| Partition coefficient n-octanol/water                    | log Pow = 2.53. Temperature: 23 °C.                                                                                                                                                  |
| Vapour pressure                                          | 2.5 kPa. Temperature: 25 °C.                                                                                                                                                         |
| Density and/or relative density                          | 1.61 g/cm <sup>3</sup> . Temperature: 25 °C.; 1.61. Temperature: 25 °C.                                                                                                              |
| Relative vapour density                                  | 5.83 (vs air)                                                                                                                                                                        |
| 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 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 fumes of hydrogen chloride, phosgene and chlorine. Decomposes slowly on contact with moisture. This produces trichloroacetic acid and hydrochloric acid. Reacts violently with finely divided metals. This generates fire and explosion hazard.

### 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

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### Acute toxicity

- Oral: no data available
- Inhalation: lowest concentration causing mortality - rat (male/female) - 3 786 ppm.
- Dermal: LD50 - rabbit - > 10 000 mg/kg bw.

### 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 substance is irritating to the eyes, skin and respiratory tract. If swallowed the substance may cause vomiting and could result in aspiration pneumonia. The substance may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness.

### STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the liver, kidneys and central nervous system. This substance is probably carcinogenic to humans.

### Aspiration hazard

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50 - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - 5 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 8.5 mg/L - 48 h.
- Toxicity to algae: EC50 - *Chlamydomonas reinhardtii* - 3.64 mg/L - 72 h.
- Toxicity to microorganisms: IC50 - *Nitrosomonas* sp. - 112 mg/L - 24 h.

### 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: UN1897 (For reference only, please check.) IMDG: UN1897 (For reference only, please check.) IATA: UN1897 (For reference only, please check.)

#### 14.2 UN Proper Shipping Name

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

#### 14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.) IMDG: 6.1 (For reference only, please check.) IATA: 6.1 (For reference only, please check.)

#### 14.4 Packing group, if applicable

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

#### 14.5 Environmental hazards

ADR/RID: Yes IMDG: Yes IATA: Yes

#### 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 |
|--------------------------------------------------------------------------|---------------------------|------------|-----------|
| Tetrachloroethylene                                                      | Tetrachloroethylene       | 127-18-4   | 204-825-9 |
| 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 August 08, 2025

#### 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>



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- 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

Depending on the degree of exposure, periodic medical examination is suggested. 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. Use of alcoholic beverages enhances the harmful effect.

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

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