# • SAFETY DATA SHEET

Version 6.10
Revision Date 11/06/2025
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## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : 1,1,3,3-Tetramethoxypropane

Product Number : 108383
Brand : Aldrich
CAS-No. : 102-52-3

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

**Hazards for the product as supplied**

Flammable liquids : Category 3



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**Other hazards**

None known.

**GHS label elements**

Hazard pictograms :

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

Precautionary statements :

**Prevention:**

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 102-52-3

**Components**

No hazardous ingredients



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## SECTION 4. FIRST AID MEASURES

| | | |
|---|---|---|
| General advice | : | Show this safety data sheet to the doctor in attendance. |
| If inhaled | : | After inhalation: fresh air. |
| In case of skin contact | : | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| In case of eye contact | : | After eye contact: rinse out with plenty of water. Remove contact lenses. |
| If swallowed | : | After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell. |
| Most important symptoms and effects, both acute and delayed | : | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Protection of first-aiders | : | For personal protection see section 8. |
| Notes to physician | : | No data available |

## SECTION 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Carbon dioxide (CO2)<br>Foam<br>Dry powder |
| Unsuitable extinguishing media | : | For this substance/mixture no limitations of extinguishing agents are given. |
| Specific hazards during fire fighting | : | Combustible.<br><br>Vapours are heavier than air and may spread along floors.<br><br>Forms explosive mixtures with air at elevated temperatures.<br><br>Development of hazardous combustion gases or vapours possible in the event of fire. |
| Hazardous combustion | : | Carbon oxides |



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products

| | | |
|---|---|---|
| Specific extinguishing methods | : | No data available |
| Further information | : | Remove container from danger zone and cool with water.<br>Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Advice for non-emergency personnel:<br>Do not breathe vapours, aerosols.<br>Ensure adequate ventilation.<br>Keep away from heat and sources of ignition.<br>Evacuate the danger area, observe emergency procedures, consult an expert.<br>Advice for emergency responders:<br>For personal protection see section 8. |
| Environmental precautions | : | Do not let product enter drains.<br>Risk of explosion. |
| Methods and materials for containment and cleaning up | : | Cover drains. Collect, bind, and pump off spills.<br>Observe possible material restrictions (see sections 7 and 10).<br>Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area. |

## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

| | | |
|---|---|---|
| Advice on protection against fire and explosion | : | Keep away from open flames, hot surfaces and sources of ignition.<br>Take precautionary measures against static discharge. |
| Further information on storage conditions | : | Keep container tightly closed in a dry and well-ventilated place.<br>Keep away from heat and sources of ignition. |



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| | | |
|---|---|---|
| Storage class | : | 3, Flammable liquids |
| Recommended storage temperature | : | Recommended storage temperature see product label. |
| Further information on storage stability | : | Moisture sensitive. |

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Engineering measures** : No data available

**Personal protective equipment**

| | | |
|---|---|---|
| Respiratory protection | : | required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. |
| Recommended Filter type: | : | Filter A (acc. to DIN 3181) for vapours of organic compounds |

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

| | | |
|---|---|---|
| Material | : | butyl-rubber |
| Break through time | : | 480 min |
| Glove thickness | : | 0.7 mm |
| Protective index | : | Full contact |
| Manufacturer | : | Butoject® (KCL 898) |
| | | |
| Material | : | Nitrile rubber |
| Break through time | : | 30 min |
| Glove thickness | : | 0.4 mm |
| Protective index | : | Splash contact |
| Manufacturer | : | Camatril® (KCL 730 / Aldrich Z677442, Size M) |
| | | |
| Remarks | : | This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the |



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supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

| | | |
|---|---|---|
| Eye protection | : | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).<br>Safety glasses |
| Skin and body protection | : | Flame retardant antistatic protective clothing. |
| Hygiene measures | : | Change contaminated clothing. Wash hands after working with substance. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | liquid |
| Color | : | No data available |
| Odor | : | fruity |
| Odor Threshold | : | No data available |
| pH | : | 7 |
| Melting point | : | No data available |
| Boiling point/boiling range | : | 158 - 167 °F / 70 - 75 °C (20 hPa)<br>Method: lit.<br><br>361 °F / 183 °C<br>Method: lit. |
| Flash point | : | 135 °F / 57 °C<br><br>Method: c.c., closed cup<br>DIN 51755 Part 1 |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Flammability (liquids) | : | No data available |
| Burning rate | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |



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| | | |
|---|---|---|
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | 1.7 hPa (68 °F / 20 °C) |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Density | : | 0.997 g/cm3 (77 °F / 25 °C)<br>Method: lit. |
| Solubility(ies)<br>Water solubility | : | slightly soluble (68 °F / 20 °C) |
| Partition coefficient: n-octanol/water | : | log Pow: 0.55<br>(External MSDS) Bioaccumulation is not expected. |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity<br>Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | 1.75 mm2/s (68 °F / 20 °C) |
| Flow time | : | No data available |
| Explosive properties | : | Not classified as explosive. |
| Oxidizing properties | : | none |
| Molecular weight | : | 164.20 g/mol |
| Particle characteristics<br>Particle size | : | No data available |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Vapour/air-mixtures are explosive at intense warming. |
| Chemical stability | : | The product is chemically stable under standard ambient conditions (room temperature) . |
| Possibility of hazardous reactions | : | Risk of ignition or formation of inflammable gases or vapours with:<br>Strong oxidizing agents<br>Strong acids |



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| | | |
|---|---|---|
| Conditions to avoid | : | Heating. |
| Incompatible materials | : | No data available |
| Hazardous decomposition products | : | In the event of fire: see section 5 |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Rat - 2,440 mg/kg
Remarks: (External MSDS)
Inhalation: No data available
Dermal: No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation
Remarks: (External MSDS)
Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: No eye irritation
Remarks: (External MSDS)

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
Test Type: Ames test
Test system: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: negative

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available



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**Aspiration hazard**
No data available

### 11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After long-term exposure to the chemical:

Possible symptoms:

Headache
Dizziness
Nausea
Vomiting
Diarrhoea
Drowsiness
narcosis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
No data available

**Persistence and degradability**
No data available

**Bioaccumulative potential**
No data available

**Mobility in soil**
No data available

**Other adverse effects**
No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.



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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 1993 |
| Proper shipping name | : | Flammable liquid, n.o.s. (1,1,3,3-Tetramethoxypropane) |
| Class | : | 3 |
| Packing group | : | III |
| Labels | : | Class 3 - Flammable liquids |
| Packing instruction (cargo aircraft) | : | 366 |
| Packing instruction (passenger aircraft) | : | 355 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 1993 |
| Proper shipping name | : | FLAMMABLE LIQUID, N.O.S. (1,1,3,3-Tetramethoxypropane) |
| Class | : | 3 |
| Packing group | : | III |
| Labels | : | 3 |
| EmS Code | : | F-E, S-E |
| Marine pollutant | : | no |

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

### National Regulations

**49 CFR Road**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 1993 |
| Proper shipping name | : | Flammable liquids, n.o.s. (1,1,3,3-Tetramethoxypropane) |
| Class | : | 3 |
| Packing group | : | III |
| Labels | : | Class 3 - Flammable liquids |
| ERG Code | : | 128 |
| Marine pollutant | : | no |
| Poison Inhalation Hazard | : | No |

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.



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**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Fire Hazard

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**US State Regulations**

**Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

**Washington Chemicals of High Concern**

Product does not contain any listed chemicals

**The components of this product are reported in the following inventories:**

TSCA : All substances listed as active on the TSCA inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

**Full text of other abbreviations**

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -



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International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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