

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-12

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

1.1 Product identifiers

Product name : Trimethyl orthoformate
Product Number : T104064
Brand : aladdin
CAS-No. : 149-73-5

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 5), H303

Acute toxicity, Inhalation (Category 5), H333

Serious eye damage/eye irritation (Category 2A), H319

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly Flammable liquid and vapor

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H303	May be harmful if swallowed
H319	Causes serious eye irritation
H333	May be harmful if inhaled
Precautionary statement(s)	
P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - 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.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P321	Specific treatment (see ... on this label).
P302+P352	IF ON SKIN: wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.
P264+P265	Wash hands [and ...] thoroughly after handling. Do not touch eyes.
P337+P317	If eye irritation persists: Get medical help.
P332+P317	If skin irritation occurs: Get medical help.
P319	Get medical help if you feel unwell.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Trimethoxymethane; Orthoformic Acid Trimethyl Ester; Methyl
Orthoformate	
Formula	: C4H10O3
Molecular weight	: 106.12

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CAS No. : 149-73-5
EC-NO. : 205-745-7

Component	Classification	Concentration
Trimethyl orthoformate	Flammable liquids Category 2; Acute toxicity Category 5; Serious eye damage/eye irritation Category 2A; H225, H303, H333, H319	≥98%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

In case of skin contact: remove/remove all soiled clothing immediately. Wash skin/shower with water.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: Drink immediately (up to 2 cups). If you feel unwell, consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Remove container from danger zone and cool with water.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

If safety can be ensured, measures can be taken to prevent further leakage or overflow. Don't let the product go down the drain.

6.3 Methods and materials for containment and cleaning up

Dry it out. Discard. Clear the affected area. Avoid dust.

6.4 Reference to other sections

no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Keep the container sealed, sensitive to humidity, and store with argon filling

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

Control of environmental exposure

If it is safe, prevent further leakage or spillage and do not allow the product to enter the sewer system.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: Transparent, liquid color: colourless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-53°C
f) Initial boiling point and boiling range	101°C
g) Flash point	48.2 °F ; 13°C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	0.97
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available

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- | | |
|---------------------------|-------------------|
| s) Explosive properties N | no data available |
| t) Oxidizing properties N | no data available |

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Possible violent reactions may occur with it: Strong oxidizing agent Water Acid

10.4 Conditions to avoid

moisture-proof. Heating up

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat -3130 mg/kg

Symptoms: Irritation of the oral cavity, throat, esophagus, and digestive tract mucosa

Remarks: (Lit.)

LC50 inhalation - rat - male -4 h ->40 mg/l - vapor

Symptoms: Possible damage: Mucosal irritation

Remarks: (ECHA)

Transcutaneous: No data available

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation (OECD Testing Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Eye irritation (OECD Testing Guideline 405)

Respiratory or skin sensitisation

Maximum Response Test - Guinea Pig Result: Negative (OECD Testing Guideline 406)

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Germ cell mutagenicity

Test type: Ames test Testing System: Salmonella Typhimurium Metabolic activation: with or without metabolic activation effect Result: Negative Remarks: (ECHA) Test type: Micronucleus test Species: Mouse Result: Negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Registration of Toxic Effects of Chemical Substances: RM6650000

To our knowledge, the chemical, physical, and toxic properties of this substance have not been fully studied.

Other hazards cannot be ruled out.

Operate in accordance with good industrial hygiene and safety regulations.

SECTION 12: Ecological information**12.1 Toxicity**

Static toxicity test on fish LC50- Leuciscus idus -412 mg/l -48 h (DIN 38412 T15)

12.2 Persistence and degradability

Aerobic - exposure time 13 days Result: 97% - rapidly biodegradable. Remarks: (ECHA)

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:**13.1 Disposal considerations**

Product

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Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**DOT (US)**

UN number: 3272

Packing group: II

Class: 3

Proper shipping name: Esters, n.o.s.
(trimethyl orthoformate)Reportable Quantity(RQ): no data
availablePoison Inhalation Hazard: no data
available

Environmental Hazards: no

IMDG

UN number: 3272

Packing group: II

EMS-No: no data available

Proper shipping name: Esters, n.o.s. (trimethyl orthoformate)

IATA

UN number: 3272

Packing group: II

Class: 3

Proper shipping name: Esters, n.o.s. (trimethyl orthoformate)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information**Prepared By**

Regulatory Affairs

ALADDIN SCIENTIFIC CORPORATION

Email: QualityAssurance@aladdinsci.com

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Revision Summary

SDS sections updated v1

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