

SAFETY DATA SHEET

Creation Date 26-May-2015 Revision Date 24-Dec-2021 Revision Number 5

1. Identification

Product Name Tetramethyl orthocarbonate, 99%

Cat No.: AC158110000; AC158110050; AC158110250

CAS No 1850-14-2

Synonyms Tetramethoxymethane

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics One Reagent Lane Fair Lawn, NJ 07410

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids

Skin Corrosion/Irritation

Category 2

Serious Eye Damage/Eye Irritation

Category 2

Specific target organ toxicity (single exposure)

Category 3

Target Organs - Respiratory system.

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor Causes skin irritation Causes serious eye irritation

May cause respiratory irritation



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Keep cool

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Skin

If skin irritation occurs: Get medical advice/attention

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eve irritation persists: Get medical advice/attention

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

Component	CAS No	Weight %	
Tetramethyl orthocarbonate	1850-14-2	>95	

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists,

call a physician.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and

effects

. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

tiredness, nausea and vomiting

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Carbon dioxide (CO₂). Powder. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media No information available

Flash Point 22 °C / 71.6 °F

Method - Based on available literature

Autoignition Temperature

Explosion Limits

No information available

Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO2).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	3	0	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Ensure adequate ventilation. Remove all

sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. **Up**Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not

get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Take precautionary measures against static discharges.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from

heat, sparks and flame.

To maintain product quality. Store under an inert atmosphere. Protect from moisture. Incompatible Materials. Strong oxidizing agents.

8. Exposure controls / personal protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location.

Ensure adequate ventilation, especially in confined areas. Use explosion-proof

electrical/ventilating/lighting equipment.

Personal Protective Equipment

Eye/face Protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard **Respiratory Protection**

> EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State Liquid

Clear Colourless - Yellow **Appearance** Odor No information available No information available **Odor Threshold** Ha No information available

Melting Point/Range -5 °C / 23 °F

Boiling Point/Range 114 - °C / 237.2 - 23 °F

22 °C / 71.6 °F **Flash Point** Based on available literature Method -

Evaporation Rate No information available Flammability (solid,gas) Not applicable

Flammability or explosive limits

No data available Upper Lower No data available **Vapor Pressure** No information available Vapor Density No information available

1.0020 **Specific Gravity**

Solubility No information available

Partition coefficient; n-octanol/water No data available **Autoignition Temperature** No information available **Decomposition Temperature** No information available No information available

Viscosity

Molecular Formula C5 H12 O4 **Molecular Weight** 136.15 Refractive index 1.3845

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Keep away from open flames, hot surfaces and

sources of ignition.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information Component Information

Toxicologically Synergistic

No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

No information available Irritation

Sensitization No information available

The table below indicates whether each agency has listed any ingredient as a carcinogen. Carcinogenicity

	Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Г	Tetramethyl	1850-14-2	Not listed				
	orthocarbonate						

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

delayed

Symptoms / effects, both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

No information available Persistence and Degradability

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3272

Proper Shipping Name ESTERS, N.O.S.

Hazard Class 3
Packing Group ||

TDG

UN3272

Proper Shipping Name ESTERS, N.O.S.

Hazard Class 3 Packing Group II

<u>IATA</u>

UN-No UN3272

Proper Shipping Name ESTERS, N.O.S.

Hazard Class 3 Packing Group II

IMDG/IMO

UN-No UN3272

Proper Shipping Name ESTERS, N.O.S.

Hazard Class 3
Packing Group

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA TSCA Inventory notification Active-Inactive		TSCA - EPA Regulatory Flags	
Tetramethyl orthocarbonate	1850-14-2	-	-	-	

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Tetramethyl orthocarbonate	1850-14-2	-	-	217-438-5	-	i		i	i	KE-33613

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and

Health Administration

Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know

Regulations

Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland

Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

Authorisation/Restrictions according to EU REACH

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)	
Tetramethyl orthocarbonate	1850-14-2	Not applicable	Not applicable	Not applicable	Not applicable	

	Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
			Notification	Requirements		
Γ	Tetramethyl orthocarbonate	1850-14-2	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By Regulatory Affairs

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard

replacing the current legislation under 29 CFR 1910.1200 to align with the Globally

Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS