



Triethyl phosphite

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Version: 1.4

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product Identifier

Product Form: Substance

Product Name: Triethyl phosphite

CAS No: 122-52-1

Product Code: VOLO10065

Standard InChI: InChI=1S/C6H15O3P/c1-4-7-10(8-5-2)9-6-3/h4-6H2,1-3H3

1.2. Intended Use of the Product

Use of the substance/mixture: For laboratory research purposes

1.3. Name, Address, and Telephone of the Responsible Party

Manufacturer

Volochem, Inc.

2600 Hilltop Dr.

Bldg B #C211

Richmond, CA 94806

T 510.748.0159

www.volochem.com

1.4. Emergency Telephone Number

Emergency Number : 510-748-0159 (9a-5p M-F)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flammable liquids (Category 3)

Acute toxicity, Inhalation (Category 4)

Acute toxicity, Dermal (Category 5)

Acute toxicity, Oral (Category 4)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity, Single exposure (Category 3)

2.2. Label Elements

GHS-US Labeling

Pictogram(s): GHS02, GHS07



Signal word: Warning

Hazard statement(s)

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H313 May be harmful in contact with skin.

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H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P223	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P310	IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER/doctor.
P393+P361+P353	IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water or shower.
P363	Wash contaminated clothing before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/ doctor if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P312	Call a POISON CENTER/ doctor if you feel unwell.
P370+P378	In case of fire: Use alcohol-resistant foam, dry chemical, or carbon dioxide to extinguish.
P403+P233+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

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

No additional information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name	Synonym(s)	Product Identifier
Triethyl phosphite	P(EtO)3; P(OEt)3; Phosphorous acid triethyl ester; Ethyl phosphite	VOLO10065 CAS No. 122-52-1 EC No. 204-552-5

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting.

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4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.

Symptoms/Injuries After Skin Contact: May cause skin irritation. Exposure may produce an allergic reaction. Redness.

Symptoms/Injuries After Eye Contact: May cause eye irritation. May cause serious damage to eyes. Redness. Pain.

Symptoms/Injuries After Ingestion: May be harmful if swallowed. Abdominal pain.

Chronic Symptoms: The chronic effects of this substance are unknown.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

Use media such as alcohol-resistant foam, dry chemical, or carbon dioxide. NO hydrous agents. NO water.

5.2. Special hazards arising from the substance or mixture

Hazardous Combustion Products: Carbon oxides, oxides of phosphorus

Fire Hazard: Product is flammable.

Explosion Hazard: Product is not explosive, but vapor/air mixtures may form an explosive environment.

5.3. Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Wear self contained breathing apparatus for fire fighting if necessary.

5.4. NFPA Rating

Health hazard: 2

Fire: 2

Reactivity Hazard: 0

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Collect spillage. Avoid generation of dust during clean-up of spills. Clear up spills immediately and dispose of waste safely.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Keep away from sources of ignition – No smoking take measures to prevent the buildup of electrostatic charge.

7.2. Conditions for Safe Storage

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Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific End Use(s)

For laboratory research purposes

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

No Occupational Exposure Limites (OELs) have been established for this product or its chemical components.

8.2. Exposure Controls

Appropriate Engineering Controls:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Avoid high vapor concentration. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment:

Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection.



Hand 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.

Eye 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).

Respiratory Protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).

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

Hygiene measures:

This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State:	Liquid
Appearance:	Clear, colorless
Odor:	unpleasant
Odor Threshold:	No data available
pH:	No data available
Relative Evaporation Rate (butylacetate=1):	No data available
Melting Point:	No data available
Boiling Point:	156 °C (313 °F) - lit.

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Flash Point:	54 °C (129 °F) - closed cup
Ignition temperature:	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Flammability (solid, gas):	No data available
Vapor Pressure:	No data available
Relative Vapor Density at 20 °C:	No data available
Relative Density:	0.969 g/cm ³ at 25 °C (77 °F)
Specific Gravity:	No data available
Solubility:	No data available
Log Pow:	No data available
Log Kow:	No data available
Viscosity, Kinematic:	No data available
Viscosity, Dynamic:	No data available
Explosive Properties:	No data available
Oxidizing Properties:	No data available
Explosive Limits:	No data available
Bulk Density	No data available
Surface Tension	No data available

9.2. Other Information

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	Vapors may form explosive mixture with air.
10.4. Conditions to Avoid	Heat, flames and sparks.
10.5. Incompatible Materials:	Strong oxidizing agents , Strong bases
10.6. Hazardous Decomposition Products	No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity:	Oral LD50 LD50 Oral - rat – 1,840 mg/kg Remarks: Behavioral: Ataxia. Lungs, Thorax, or Respiration: respiratory stimulation
	Inhalation LC50 LC50 Inhalation - rat - 6 h – 11,063 mg/m ³ Remarks: respiratory disorder Lungs, Thorax, or Respiration: other changes. Gastrointestinal: changes on structure or function of salivary glands.
	Dermal LD50 LD50 Dermal - rabbit -2,800 mg/kg
	Other information on acute toxicity no data available
Skin Corrosion/Irritation:	No data available
Serious Eye Damage/Irritation:	Eyes – rabbit – Moderate eye irritation
Respiratory or Skin Sensitization:	No data available
Germ Cell Mutagenicity:	No data available
Carcinogenicity:	Not classified
Reproductive Toxicity:	no data available
Specific Target Organ Toxicity (Single Exposure):	Inhalation - May cause respiratory irritation. No data available

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Specific Target Organ Toxicity (Repeated Exposure):	No data available
Aspiration Hazard:	No data available
Signs and symptoms of exposure:	No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Contact a licensed professional waste disposal service to dispose of this material. Dispose of waste material in accordance with all local, regional, national, and international regulations

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

14.1. UN Number	2323
14.2. UN Proper Shipping Name	Triethyl phosphite
14.3. Transport hazard class(es)	3
14.4. Packing group	III
14.5.1. Marine Pollutant	No
14.5.2. Reportable Quantity	No
14.6.1. Toxic Inhalation Hazard	No
14.6.2. Mode specific comments	See below
14.6.3. Ground transportation - DOT (US)	No comments
14.6.4. Marine transportation - IMDG	EMS-No: F-E, S-D
14.6.5. Air transportation - IATA/ICAO	No comments

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

EPA TSCA Inventory

Listed

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

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

SARA 311/312 Components

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

15.2. US State Regulations

California Proposition 65 List 2014

Not listed

Maine Chemicals of High Concern List 2012

Not listed

Massachusetts Right to Know Hazardous Substance List 2014

Not listed

New Jersey Right to Know Hazardous Substance List 2010

Listed

Pennsylvania Right to Know Hazardous Substance List 2010

Not listed

15.3. Regulations to Control Illicit Diversion

US Department of Homeland Security Screen Criteria

Theft: 220 lbs

United Nations Chemical Weapons Convention

Schedule III Precursor subject to import/export controls and threshold reporting requirements.

SECTION 16: OTHER INFORMATION

16.1. Other Classifications

HMIS

Health hazard: 2

Flammability: 2

Physical hazards: 0

16.2. References

International Chemical Safety Card 0684 (Validated July 10, 1997)

Revision date : 1/3/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Volochem chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household goods, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.

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