

## SAFETY DATA SHEET

Creation Date 07-May-2010

Revision Date 14-Feb-2020

Revision Number 4

### 1. Identification

**Product Name** Triisopropyl phosphite

**Cat No. :** A15247

**CAS-No** 116-17-6  
**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

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

Flammable liquids	Category 4
Acute oral toxicity	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Combustible liquid  
Toxic if swallowed  
Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash 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 eye irritation persists: Get medical advice/attention

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store locked up  
Store in a well-ventilated place. Keep cool

**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 %
Phosphorous acid, tris(1-methylethyl) ester	116-17-6	96
Phosphonic acid, bis(1-methylethyl) ester	1809-20-7	<3

### 4. First-aid measures

**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	62 °C / 143.6 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Oxides of phosphorus.

### 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. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
3

**Flammability**  
2

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional Ecological Information.
<b>Methods for Containment and Clean Up</b>	Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.
<b>Storage</b>	Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas.
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard 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.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	94 - 95 °C / 201.2 - 203 °F @ 66,6 hPa
<b>Flash Point</b>	62 °C / 143.6 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
Upper	No data available
Lower	No data available
<b>Vapor Pressure</b>	0.26 kPa @ 20 °C
<b>Vapor Density</b>	No information available
<b>Specific Gravity</b>	0.914
<b>Solubility</b>	Insoluble in water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	No information available
<b>Molecular Formula</b>	C <sub>9</sub> H <sub>21</sub> O <sub>3</sub> P
<b>Molecular Weight</b>	208.24

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Moisture sensitive. Air sensitive.
<b>Conditions to Avoid</b>	Exposure to air. Incompatible products. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	Strong oxidizing agents

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Oxides of phosphorus

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

##### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phosphorous acid, tris(1-methylethyl) ester	167 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	Not listed
Phosphonic acid, bis(1-methylethyl) ester	LD50 = 1700 mg/kg ( Rat )	LD50 = 5700 mg/kg ( Rabbit )	Not listed

**Toxicologically Synergistic Products** No information available

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

**Irritation** Irritating to skin

**Sensitization** No information available

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Phosphorous acid, tris(1-methylethyl) ester	116-17-6	Not listed	Not listed	Not listed	Not listed	Not listed
Phosphonic acid, bis(1-methylethyl) ester	1809-20-7	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** Ames test: positive.

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be 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.

**Persistence and Degradability** Insoluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility**

Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

### 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** UN3278  
**Proper Shipping Name** ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.  
**Technical Name** Phosphorous acid, tris(1-methylethyl) ester  
**Hazard Class** 6.1  
**Packing Group** III

**TDG**

**UN-No** UN3278  
**Proper Shipping Name** ORGANOPHOSPHORUS COMPOUND, LIQUID TOXIC, N.O.S.  
**Hazard Class** 6.1  
**Packing Group** III

**IATA**

**UN-No** UN3278  
**Proper Shipping Name** ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.  
**Hazard Class** 6.1  
**Packing Group** III

**IMDG/IMO**

**UN-No** UN3278  
**Proper Shipping Name** ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.  
**Hazard Class** 6.1  
**Packing Group** III

### 15. Regulatory information

**United States of America Inventory**

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Phosphorous acid, tris(1-methylethyl) ester	116-17-6	X	ACTIVE	-
Phosphonic acid, bis(1-methylethyl) ester	1809-20-7	X	ACTIVE	-

**Legend:**

**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), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Phosphorous acid, tris(1-methylethyl) ester	116-17-6	-	X	204-130-0	-	-	X	-	KE-34328
Phosphonic acid, bis(1-methylethyl) ester	1809-20-7	X	-	217-317-7	-	X	X	X	KE-10960

**U.S. Federal Regulations**

<b>SARA 313</b>	Not applicable
<b>SARA 311/312 Hazard Categories</b>	See section 2 for more information
<b>CWA (Clean Water Act)</b>	Not applicable
<b>Clean Air Act</b>	Not applicable
<b>OSHA - Occupational Safety and Health Administration</b>	Not applicable
<b>CERCLA</b>	Not applicable
<b>California Proposition 65</b>	This product does not contain any Proposition 65 chemicals.
<b>U.S. State Right-to-Know Regulations</b>	Not applicable
<b>U.S. Department of Transportation</b>	
Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N
<b>U.S. Department of Homeland Security</b>	This product does not contain any DHS chemicals.

**Other International Regulations**

<b>Mexico - Grade</b>	No information available
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**16. Other information**

<b>Prepared By</b>	Health, Safety and Environmental Department Email: tech@alfa.com www.alfa.com
<b>Creation Date</b>	07-May-2010
<b>Revision Date</b>	14-Feb-2020
<b>Print Date</b>	14-Feb-2020
<b>Revision Summary</b>	SDS authoring systems update, replaces ChemGes SDS No. 116-17-6/3.

**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**