1. Identification

Product Name: Triethyl phosphite

Cat No.: AC139690000; AC139690010; AC139691000; AC139695000

Synonyms: Phosphorous acid triethyl ester

Recommended Use: Laboratory chemicals.

Uses advised against: No Information available

2. Hazard(s) identification

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

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label Elements

<table>
<thead>
<tr>
<th>Signal Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazard Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquid and vapor</td>
</tr>
</tbody>
</table>

Precautionary Statements

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

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

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

Storage
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

Other hazards
Stench.

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>122-52-1</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

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. Obtain medical attention.

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

Inhalation
Move 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/effects
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media
No information available

Flash Point
44 °C / 111.2 °F

Method -
No information available

Autoignition Temperature
250 °C / 482 °F

Explosion Limits
Upper 42.5%
Lower 3.75%

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) Oxides of phosphorus Burning produces obnoxious and toxic fumes

**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.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**6. Accidental release measures**

**Personal Precautions**
Ensure adequate ventilation. Use personal protective equipment. 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 Up**
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

**7. Handling and storage**

**Handling**
Wear personal protective equipment. 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. Take precautionary measures against static discharges.

**Storage**
Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Flammables area. Keep under nitrogen. Keep container tightly closed in a dry and well-ventilated place.

**8. Exposure controls / personal protection**

**Exposure Guidelines**
This product does not contain any known or suspected reproductive hazards

**Engineering Measures**
Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

**Eye/face Protection**
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.

**Skin and body protection**
Long sleeved clothing.

**Respiratory Protection**
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.

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

**9. Physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Stench</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
</tbody>
</table>
pH
Melting Point/Range
-112 °C / -170 °F
Boiling Point/Range
156 - 158 °C / 313 - 316 °F @ 760 mmHg
Flash Point
44 °C / 111.2 °F
Evaporation Rate
No information available
Flammability (solid,gas)
Not applicable
Flammability or explosive limits
Upper 42.5%
Lower 3.75%
Vapor Pressure
<6 hPa @ 20 °C
Vapor Density
No information available
Specific Gravity
0.965
Solubility
Hydrolyses
Partition coefficient; n-octanol/water
No data available
Autoignition Temperature
250 °C / 482 °F
Decomposition Temperature
260 °C
Viscosity
1 mPa.s at 20 °C
Molecular Formula
C6 H15 O3 P
Molecular Weight
166.16

10. Stability and reactivity

Reactive Hazard
None known, based on information available
Stability
Stable under normal conditions. Moisture sensitive. Air sensitive.
Conditions to Avoid
Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Incompatible products. Exposure to moist air or water.
Incompatible Materials
Strong oxidizing agents, Strong acids, Strong bases, Halogens
Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO2), Oxides of phosphorus, Burning produces obnoxious and toxic fumes
Hazardous Polymerization
Hazardous polymerization does not occur.
Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information
Oral LD50
Based on ATE data, the classification criteria are not met.
Dermal LD50
Based on ATE data, the classification criteria are not met.
Mist LC50
Based on ATE data, the classification criteria are not met.

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>LD50 = 3200 mg/kg ( Rat )</td>
<td>LD50 = 2800 mg/kg ( Rabbit )</td>
<td>LC50 = 11063 mg/m³ ( Rat ) 6 h</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

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

Irritation
No information available
Sensitization
No information available
Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>122-52-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**
Not mutagenic in AMES Test

**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 flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Do not empty into drains. Reacts with water so no ecotoxicity data for the substance is available.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>EC50: = 94.1 mg/L, 24h (Daphnia magna)</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**
Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation**
No information available.

**Mobility**
Is not likely mobile in the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>0.66</td>
</tr>
</tbody>
</table>

## 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**: UN2323
- **Proper Shipping Name**: TRIETHYL PHOSPHITE
- **Hazard Class**: 3
- **Packing Group**: III

**TDG**

- **UN-No**: UN2323
- **Proper Shipping Name**: TRIETHYL PHOSPHITE
- **Hazard Class**: 3
- **Packing Group**: III

**IATA**

- **UN-No**: UN2323
- **Proper Shipping Name**: TRIETHYL PHOSPHITE
- **Hazard Class**: 3
- **Packing Group**: III
15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

### International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>X</td>
<td>X</td>
<td></td>
<td>204-552-5</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

- TSCA 12(b) Not applicable
- SARA 313 Not applicable
- SARA 311/312 Hazard Categories
  - Acute Health Hazard No
  - Chronic Health Hazard No
  - Fire Hazard Yes
  - Sudden Release of Pressure Hazard No
  - Reactive Hazard No
- 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

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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 contains the following DHS chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphite</td>
<td>0 lb STQ</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico - Grade
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class  B3  Combustible liquid

16. Other information

Prepared By  Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date  11-Apr-2008
Revision Date  03-Feb-2016
Print Date  03-Feb-2016
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