

Preparation Date 05-May-2018

Revision Date 05-May-2018

Revision Number : 01

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**1.1 Identification of the product**

Product Description TRIETHYL PHOSPHITE
Pure Substance/preparation Substance
CAS No. 122-52-1
EC No. 204-552-5
Reach Registration No. 01-2119932311-51-0003

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Recommended use Laboratory chemical, Chemical intermediate, Manufacture of substance

1.3 Details of the Supplier of the Safety Data Sheet**Manufacturer/Supplier**

UPL Limited,
CTS No. 610 B/2, Bandra Village,
Off Western Express
Highway, Behind Teachers Colony,
Bandra East, Mumbai,
Maharashtra 400051

Telephone +91- 022 7152 8000
E-mail address info.in@uniphos.com

1.4 Emergency Telephone Number

Emergency number (CARECHEM 24): +44 (0) 1235 239670

2. Hazard Identification**2.1 Classification of the substance or Mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquid Category 3 - (H226)

2.2 Label elements

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Signal Word

WARNING

Hazard Statement

H226

Flammable liquid and vapour

Precautionary Statements

Prevention

P210 - Keep away from heat/sparks/open flames/hot surfaces.**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.**P280** - Wear protective gloves/eye protection/face protection

Response

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**P370+P378** - In case of fire: Use Powder, foam, carbon dioxide to extinguish.

Storage

P403+P235+P233 Store in a well-ventilated place. Keep cool. Keep container tightly closed.**P405** Store locked up.

Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

2.3 Other hazards

The substance does not meet the criteria for a PBT or vPvB substance

3. Composition/information on Ingredients

Substance/Mixture: Substance

Chemical name	CAS-No	EC No	Weight %	EU - GHS Substance Classification (REGULATION (EC) No 1272/2008)	Reach No.
Triethyl Phosphite	122-52-1	204-552-5	90-100	Flam. Liq. 3;H226,	01-2119932311-51-0003

For the full text of the H-Statements mentioned in this Section, see Section 16

4. First aid measures

4.1 Description of first-aid measures

General advice

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

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Eye contact	IF IN EYES: Rinse cautiously with water for 15-30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
Skin contact	Wash off with soap and plenty of water for at least 15-30 minutes. Clean contaminated clothing and shoes before reuse or discard if they cannot be thoroughly cleaned. If skin irritation or rash develops, get medical attention.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth. Do not induce vomiting unless told by physician. If vomiting occurs ensure patient can breathe. Get medical attention.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed

Treat symptomatically and supportively.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Powder, foam, carbon dioxide

Unsuitable extinguishing media Hydrous agents, water

5.2 Special hazards arising from the substance or mixture

Special Hazard Thermal decomposition can lead to release of toxic/irritant gases.
Hazardous decomposition products formed under fire conditions:
Carbon oxides, Phosphorus oxides

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and protective suit. In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of involved material.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from heat/sparks/open flames/hot surfaces. Ground/Bond container and receiving equipment. Use personal protective equipment. Use explosion-proof electrical/ventilating/lighting/.../equipment. Take precautionary measures against static discharge. Do not breathe dust/vapor/spray/mist. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Wear suitable protective equipment (See section 8).

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation. Keep away from ignition sources.

6.4 Reference to other sections

Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

7. Handling and Storage**7.1 Precautions for Safe Handling****7.1.1 Handling**

Handle under dry protective gas. Use only non-sparking tools. Keep container tightly closed. Store locked up. Store in cool, dry place in tightly closed container. Ensure good ventilation/exhaustion at the workplace.

7.1.2 Hygiene measures

Wash thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Store away from oxidizing agents, water and air. Store under dry and inert gas. Protect from humidity and store away from water.

7.3 Specific end uses

Laboratory chemical, Chemical intermediate, Manufacture of substance

8. Exposure Controls/ Personal Protection**8.1 Control Parameters**

Exposure Limits Apply technical measures to comply with the occupational exposure limits.

Derived No Effect level (DNEL) No information available

Predicted No Effect Concentration No information available

8.2 Exposure Controls

Appropriate Engineering Control Ensure adequate ventilation, especially in confined areas. If applicable, use process enclosure, local exhaust ventilation, or other engineering controls to maintain airborne level below recommended exposure limits. If exposure limits have not been established maintain airborne levels to acceptable level.

Personal protective equipment

Eye protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU)

Skin protection Long-sleeved clothing. Preventative skin protection is recommended.

Hand protection Wear suitable protective glove/clothing. 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.

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Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Properties**9.1 Information on basic physical and chemical properties**

Appearance	Colourless Liquid
Physical state	Liquid
Color	Colorless
Odor	Characteristic, obnoxious, phosphite odor

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ Method</u>
pH	No information available	
Melting point/freezing point	51°C	
Boiling Point/Range	156°C	
Flash Point	54°C	
Evaporation rate	No information available	
Flammability (solid, gas)	Highly flammable	
Flammability or explosive limits	No information available	
Upper	No information available	
Lower	No information available	
Density	0.969 at 20°C	
Vapor Density	No information available	
Vapor pressure (air = 1)	0.872 mm Hg	
Water solubility	14800 mg/L	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	Log Pow = 0.74	
Autoignition temperature	250°C	
Decomposition temperature	No information available	
Viscosity	No information available	
Oxidizing properties	No information available	
Explosive properties	Above 54 °C explosive vapour/air mixtures may be formed.	
Surface Tension	24.26 g/s2 at 20 °C	

10. Stability and Reactivity**10.1 Reactivity**

Reacts violently with water.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reaction

Reacts with oxygen at low temperatures to form an explosive product.
Reacts with water, acids and strong oxidants, causing fire and explosion hazard.

10.4 Conditions to avoid

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Avoid contact with incompatible materials.

10.5 Incompatible Materials

Oxidizing agents, air, water

10.6 Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/irritant gases.

Hazardous decomposition products formed under fire conditions: Carbon oxides, Phosphorus oxides

11. Toxicological Information**11.1 Information on Toxicological Effects****Acute toxicity**

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Triethyl Phosphite	3720 mg/kg	2800 mg/kg	11063 mg/m ³ 6203 mg/m ³

Local effect

Inhalation	No information available.
Eye contact	Slightly irritating
Skin contact	Slightly irritating
Ingestion	May be harmful if swallowed

Chronic toxicity

Skin Corrosion/Irritation	Slightly irritating
Eye damage/irritation	Slightly irritating
Sensitization	No additional information available
Mutagenic effects	No additional information available
Carcinogenic effects	No additional information available
Reproductive effects	Suspected of damaging fertility or unborn child
STOT - Single Exposure	No additional information available
STOT - repeated exposure	No additional information available
Aspiration hazard	No additional information available

12. Ecological Information**12.1 Ecotoxicity**

Fish LC50/96hr= 1630.802 mg/L
Daphnia EC50/48hr= 763.799 mg/L
Alga EC50/96hr = 210.153 mg/L

12.2 Persistence and Degradability

Half-life for triethyl phosphite in water is 15 days which is estimated to be not persistent in the environment.
Readily biodegradable.

12.3 Bioaccumulative Potential

Bioconcentration Facotr (BCF) = 3.162 L/kg wet-wt at temp 25°C

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12.4 Mobility in Soil

Adsorption coefficient (Koc) value of triethyl phosphite is 1337 at 25 deg C.

12.5 Results of PBT and vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other Adverse Effects

No other adverse effects identified.

13. Disposal Considerations**13.1 Waste Treatment Methods****Waste from Residues / Unused Products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Empty container should be taken for local recycling, recovery or waste disposal. Do not re-use container. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information**ADR/RID**

14.1 UN-No	UN2323
14.2 Proper Shipping name	TRIETHYL PHOSPHITE
14.3 Hazard class	3
14.4 Packing group	III
14.5 Environmental Hazard	No

IMDG/IMO

14.1 UN-No	UN2323
14.2 Proper Shipping name	TRIETHYL PHOSPHITE
14.3 Hazard class	3
14.4 Packing group	III
14.5 EMS-No	F-E,S-D
14.6 Environmental Hazard	No

IATA/ICAO

14.1 UN-No	UN2323
14.2 Proper Shipping name	TRIETHYL PHOSPHITE
14.3 Hazard class	3
14.4 Packing group	III
14.5 Environmental Hazard	No

15. Regulatory Information**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture****International Inventories**

TSCA	Complies
ELINCS/EINECS	Complies
DSL/NDL	Complies
PICCS	Complies
ENCS	Complies

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AICS
KECLComplies
Complies
Complies**Legend****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**AICS** - Australian Inventory of Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**15.2 Chemical safety assessment**

A chemical safety assessment has not been carried out.

16. Other Information**Full text of H-Statements referred to under sections 2 and 3.****H226** - Flammable liquid and vapour**Preparation Date** 05-May-2018
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Revision Note Not applicable**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006****Disclaimer**

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End of Safety Data Sheet