GHS Safety Data Sheet

SDS No. :PPR03LAEG

Date Issued: 2002/08/21
Last Up Date: 2018/02/20

Section 1. Identification of the substance or mixture and of the supplier

1.1 Product Information

Product name: $PO(OC_2H_5)_3$ Triethyl phosphate

Product number:	Purity	Form
PPR02LB	99.999%(5N)	liquid
—	99.9999%(6N)～99.999999%(8N)	liquid

1.2 Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.
1-28, 5-chome, Chiyoda, Sakado-shi, Saitama Japan 350-0284
Phone: +81-49-284-1511 Fax: +81-49-284-1351

Emergency Phone : +81-49-284-1511

Section 2. Hazards identification

GHS Classification:

Health Hazards	Environmental Hazards	Physical Hazards
Acute toxicity(Oral) : Category 4 Serious eye damage/eye irritation : Category 2 Reproductive toxicity : Category 2 Specific target organ toxicity, single exposure : Category 2, 3	Hazardous to the aquatic environment, acute toxicity : Not classified chronic toxicity : Not classified	Flammable liquids:Not classified Pyrophoric liquids : Not classified Substances and mixtures which, in contact with water, emit flammable gases : Not classified

GHS Label: C,W

Pictogram or symbols

Warning word: WARNING	
Hazard information	**Description of precaution**
Harmful if swallowed. Causes serious eye irritation Suspected of damaging fertility or the unborn child May cause damage to organs (Nervous system) May cause drowsiness or dizziness	Obtain special instructions. Read and understand all safety precautions before handling. Wear protective gloves/protective clothing/eye protection/respiratory protection /face protection during handling. Avoid breathing mist/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell. Protect from sunlight. Store in a cool, dry and well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/ container in accordance with local/national regulations.

Additional hazard information :

With respect to additional hazard information, see Section 11.

Section 3. Composition / information on ingredients

Chemical or common name:	Triethyl phosphate, Ethyl phosphate
Synonyms	Phosphoric acid, triethyl ester
	Triethoxy phosphine oxide
Chemical formula:	$PO(OC_2H_5)_3$
Single Substance or Compound:	Single substance
Composition:	100%
CAS #:	78-40-0
RTECS#:	TC7900000
TSCA inventory :	listed
EINECS:	2011145

Section 4. First aid measures

Eye contact: Promptly rinse eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

Skin contact: Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues.

Ingestion: Rinse mouth and throat with water. Get medical attention immediately.

Inhalation: Remove the exposed person immediately and provide fresh air. Get medical attention.

Section 5. Fire fighting measures

Extinguishing agents: Carbon dioxide, dry chemical powder, dry sand or alcohol resistance foam. DO NOT use a direct water stream.

Fire fighting: Flammable material.
Remove containers to safe place if possible.
Use water spray to Cool down nearby structures and containers.
In case of fire, may liberate toxic gases/ fume.
Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.

Explosion hazards: Heating may cause an explosion.

Section 6. Accidental release measures

Personal Precaution: Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor.

Environmental hazard precaution:
Shut off leak if without risk.
Prevent flow out to river, etc. so as not to badly affect.

Methods for containment and cleaning up:
Remove all sources of ignition.
Avoid unnecessary contacts with spills.
Indoor leakage: Ventilate as much as possible until the cleaning is completed.
Outdoor leakage: Work from the windward and evacuate the leeward crowd.
Absorb or cover with vermiculite or other suitable absorbent, and dispose of DOT-approved waste containers as much as possible.
Carefully wash spill site with plenty of water after material pick up.

Section 7. Handling and storage

Precautions to be taken in handling:

Safe handling: Handle the material in a dry inert gas atmosphere, utilizing glove bag or glove box. Keep away from moisture when handling.
Keep container or bottle tightly closed when not in use.
Avoid prolonged or repeated exposure.
Handling worker wears suitable protective clothing.
Keep away from heat, sparks and naked flame.
Electrically ground all equipment when handling this material.

Precautions to be taken in storage:

General precautions: Store the material in a sealed container.
Store in a cool, dry, well ventilated and dark place away from incompatible materials.
Keep away from any heat, sparks, and flames.

Section 8. Exposure controls / personal protection

Exposure guideline: ACGIH/TLV (2013) : Not established
OSHA/PEL(2006) : Not established

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.

Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, impervious gloves, protective wear,protective boots.

Section 9. Physical and chemical properties

Color and Form:	Colorless liquid
Chemical formula:	$PO(OC_2H_5)_3$
Formula weight:	182.2
Melting Point:	-56.4 ℃
Boiling Point:	216～217 ℃
Vapor pressure:	20 Pa/20 ℃
Density:	1.071 g/cm^3
Partition coefficient ; n-octanol/water:	log Kow = 0.8
Solubility(Water):	Decomposes
(Dissoluble):	Ethanol, Diethyl ether
Flammability:	Flammable
Flash point:	116 ℃
Autoignition Temperature	452 ℃
Oxidation:	No data available

Section 10. Stability and reactivity

Stability: Stable in an inert gas atmosphere under room temperature.
Decomposed by moisture in the air.

Reactivity

Incompatibility: Strong acids, strong oxidizing agents.

Conditions to avoid: Heat, water and moisture.

Hazard decomposition products

Phosphine, Carbon monoxide, carbon oxides and phosphorus oxides.

Section 11. Toxicological information

Acute toxicity(Oral):	GHS: Category 4 ; Harmful if swallowed. $PO(OC_2H_5)_3$: oral rat LD_{50} = 1131～1160 mg/kg (SIDS)
Acute toxicity(Dermal) :	GHS : Not classified.; Falls below the lowest level. $PO(OC_2H_5)_3$: Dermal rat LD_{50} ＞ 20 g/kg (PATTY 5th (2001)))
Acute toxicity(Inhalation : mist) :	GHS : Not classified.; Falls below the lowest level. $PO(OC_2H_5)_3$: Inhalation rat LD_{50} ＞ 8.817 mg/L (SIDS)
Skin corrosive / irritation:	GHS : Not classified.; Falls below the lowest level.
Serious eye damage / irritation:	GHS : Category 2 ; Causes serious eye irritation
Respiratory/ skin sensitization:	GHS : No data available
Germ cell mutagenicity:	GHS : Not classified.; Falls below the lowest level.
Carcinogenicity:	GHS : No data available
Reproductive toxicity:	GHS : Category 2 ; Suspected of damaging fertility or the unborn child
Specific target organ toxicity	
－single exposure:	GHS : Category 2 ; May cause damage to organs (Nervous system) Category 3 ; May cause drowsiness or dizziness
－repeated exposure:	GHS : No data available
Aspiration hazard:	GHS : No data available

Section 12. Ecological information

Ecotoxicity:	
Hazards to the aquatic environment	
－acute toxicity:	GHS : Not classified.; Falls below the lowest level. Algae(Scenedesmus subspicatus), Crustacea(Daphnia magna) ＞ 100 mg/L (SIDS(2002))
－chronic toxicity:	GHS : Not classified.; Falls below the lowest level.
Hazardous the ozone layer:	GHS : No data available No Freon or Halon
Fish toxicity:	See above
Degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available

Section 13. Disposal considerations

Disposal method: User of the product should contract with the local government or licensed 'Industrial Waste Haulers' for disposal of waste.

Section 14. Transport information

UN classification:	Not hazardous
UN number:	None
HS code:	2919.90
Marine pollution:	Yes
Precautions:	Container should be transported in a secure position, in a well-ventilated vehicle.

Section 15. Regulatory information

TSCA inventory : listed
Please refer to any other local / national measures that may be relevant.

Section 16. Other information

The information described above is believed to be correct. However, Kojundo Chemical Lab. makes no representation, warranty nor guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.