

GHS Safety Data Sheet

SDS No. : PPR04LAEG

Date Issued : 2012/07/12

Last updated : 2024/09/17

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

Product Information

Product name: P(OCH₃)₃ Trimethyl phosphite (TMP)

| | | |
|-----------------|-----------------------------|--------|
| Product number: | Purity | Form |
| PPR08LB | — | liquid |
| — | 99.9999%(6N)~99.999999%(8N) | liquid |

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.

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Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

| Health Hazards | Environmental Hazards | Physical Hazards |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Acute toxicity(Oral) : Category 4 Acute toxicity(Dermal) : Not classified Skin corrosion/irritation : Category 2 Serious eye damage/eye irritation : Category 2 Reproductive toxicity : Category 1B Specific target organ toxicity, single exposure : Category 3 Specific target organ toxicity, repeated exposure : Category 2 | Hazardous to the aquatic environment, acute hazard : Category 3 chronic toxicity: Category 3 | Flammable liquids : Category 3 Self-reactive substances and mixtures : Type G |

GHS Label:



Pictograms or symbols:

Warning word: DANGER

| Hazard information | Description of precaution |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flammable liquid and vapour Harmful if swallowed Causes skin irritation Causes serious eye irritation May damage fertility or the unborn child May cause respiratory irritation May cause damage to organs through prolonged or repeated exposure (eye, nervous system, respiratory organs, bone, hematopoietic system) Harmful to aquatic life | Obtain special instructions. Read and understand all safety precautions before handling. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use explosion-proof electrical/ventilating/lighting/.../equipment. Take precautionary measures static discharge. Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling. Avoid breathing dust/mist/gas/fume/vapor/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling. Take off the contaminated clothing and wash before reuse. Keep container or bottle tightly closed when not in use. Use only outdoors or in well-ventilated area. Avoid release to the environment and collect spillage. IN CASE OF FIRE: Wear protective gloves/eye protection/face protection. Use 《refer to our SDS》 to extinguish. |



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Harmful to aquatic life with long lasting effects

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.

IF ON SKIN: Remove immediately all contaminated clothing and rinse skin with water/shower. Then wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention.

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.

Section 3. Composition / information on ingredients

| | |
|-------------------------------|---------------------------------------------------------|
| Chemical or common name: | Trimethyl phosphite |
| Synonyms: | Phosphorous acid, trimethyl ester, Trimethoxy phosphine |
| Chemical formula: | Single substance |
| Single Substance or Compound: | P(OCH ₃) ₃ |
| Composition: | 100% |
| CAS #: | 121-45-9 |
| RTECS#: | TH1400000 |
| TSCA inventory : | listed |
| EINECS: | 2044715 |

Section 4. First aid measures

| | |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact: | Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention. |
| Skin contact: | Remove immediately all contaminated clothing. Wipe off the product immediately by tissue or soft cloth, etc. Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues. |
| Inhalation: | Remove the exposed person immediately and provide fresh air. Get medical attention. |
| Ingestion: | Rinse mouth and throat with water. Get medical attention immediately. |

Section5. Fire fighting measures

| | |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extinguishing media: | Carbon dioxide, Dry chemical powder, water foam, dry sand. DO NOT use a direct water stream. |
| Fire fighting: | Flammable material. In case of fire, the product may liberate toxic gases/ fume. Remove containers to safe place if possible. Use water spray to Cool down nearby structures and containers. Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire. |

Section 6. Accidental release measures

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Personal Precautions: | Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts. |
| Environmental hazard precautions: | Shut off leak if without risk. Prevent flow out to river, etc. so as not to badly affect. |
| Method for containment and cleaning up: | |



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Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.
Wear disposable coveralls and discard them after use.
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: Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen.
Avoid prolonged or repeated exposure.
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.

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(2024) Trimethyl phosphite TLV-TWA = 2 ppm
OSHA(2006) PEL: No data available
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 etc.

Section 9. Physical and chemical properties

| | |
|----------------------------------------|-------------------------------------------------------------------|
| Color and Form: | Colorless liquid, with pungent odour. |
| Chemical formula: | P(OCH ₃) ₃ |
| Formula weight: | 124.1 |
| Melting point: | -78 °C |
| Boiling point: | 111 °C |
| Flash point: | 57.6 °C, 57.5 °C |
| Ignition point: | 265 °C |
| Density: | 1.0518 g/cm ³ (20°C) |
| n-Octanol/water partition coefficient: | log Pow = -0.6 |
| Vapor pressure: | 3.2kpa(25°C) |
| Solubility in water: | Decomposes |
| Soluble in : | Soluble; Ethanol, Ether Slightly soluble; Carbon tetrachloride |
| Flammability: | Flammable substance but not easily ignited. |
| Oxidation: | None |



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Section10. Stability and reactivity

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

Reactivity

Condition to avoid: Moisture, water : decomposes
Incompatibility: Oxidizing agents, strong bases

Hazardous decomposition products.:

Dimethyl phosphite, methanol, phosphorus oxide, carbon monoxide, carbon dioxide

Section11. Toxicological information

Acute toxicity(Oral): GHS : Category 4 ; Harmful if swallowed
Rat LD₅₀ = 1600 mg/kg(PATY(6th,2012))

Acute toxicity(Dermal): GHS : Not classified
Rabbit LD₅₀ = 2600 mg/kg(ACGIH(7th,2001))

Skin corrosive / irritation: GHS : Category 2 ; Causes skin irritation
PATY(6th,2012) etc

Serious eye damage / irritation: GHS : Category 2 ; Causes serious eye irritation
PATY(6th,2012) etc

Respiratory sensitization: GHS : No data available

Skin sensitization: GHS : No data available

Germ cell mutagenicity: GHS : No data available

Carcinogenicity: GHS : No data available

Reproductive toxicity: GHS : Category 1B ; May damage fertility or the unborn child
PATY(6th,2012) etc

Specific target organ toxicity

- single exposure: GHS : Category 3 ; May cause respiratory irritation
PATY(6th,2012) etc
- repeated exposure: GHS : Category 2 ; May cause damage to organs through prolonged or repeated exposure(eye, nervous system, respiratory organs, bone, hematopoietic system)
PATY(6th,2012) etc

Aspiration hazard: GHS : No data available

Section12. Ecological information

Ecotoxicity:

Hazardous to the aquatic environment

—acute toxicity: GHS : Category 3 ; Harmful to aquatic life
Daphnia magna EC₅₀(48h) = 25 mg/L(SIDS(2004))

—chronic toxicity: GHS : Category 3 ; Harmful to aquatic life with long lasting effects

Hazardous to the ozone layer GHS : No data available
No Freon or Halon

Fish toxicity: See above

Degradability: Not readily biodegradable

Bioaccumulative potential: Low bioconcentration

Mobility in soil: No data available



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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 number: 2329
IATA shipping name: Trimethyl phosphite
IATA hazard class: Class 3 (Flammable liquids)
Subsidiary risk:
IATA packing group: III
HS code: 2920.23
Marine pollution: None

Section 15. Regulatory information

TSCA inventory: Listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

This SDS is for provision of information, and it does not represent a guarantee the properties or safeties of the product.

The information herein is based on the references we could obtained and the present state of our knowledge, however, this SDS does not always cover all information about the product. Some new information or amendments may be added afterwards.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used. The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.

