




# Material Safety Data Sheet

| HAZARD WARNINGS  | RISK PHRASES   | PROTECTIVE CLOTHING   |
|--|--|---|
|   | <p>Pyrophoric. May spontaneously ignite on contact with air. Flammable material; avoid heat and sources of ignition. Corrosive to eyes and skin on contact. Lachrymator. Stench -- do not inhale, use under a fume hood. Air and moisture sensitive material. Store under inert gas.</p> |  |

## Section I. Chemical Product and Company Identification

|                  |                                   |  |  |
|------------------|-----------------------------------|--|--|
| Chemical Name    | Tri-tert-butylphosphine           |  |  |
| Catalog Number   | T1912                             | Supplier   | TCI America<br>9211 N. Harborgate St.<br>Portland OR<br>1-800-423-8616 |
| Synonym          | Not available.                    | <div> <div>In case of<br/>Emergency<br/>Call</div> <div> <b>Chemtrec®</b><br/> <b>(800) 424-9300 (U.S.)</b><br/> <b>(703) 527-3887 (International)</b> </div> </div> |  |
| Chemical Formula | C <sub>12</sub> H <sub>27</sub> P |  |  |
| CAS Number       | 13716-12-6                        |  |  |

## Section II. Composition and Information on Ingredients

| Chemical Name           | CAS Number | Percent (%)      | TLV/PEL        | Toxicology Data |
|-------------------------|------------|------------------|----------------|-----------------|
| Tri-tert-butylphosphine | 13716-12-6 | Min. 95.0 (GC,T) | Not available. | Not available.  |

## Section III. Hazards Identification

|                        |   |
|------------------------|---|
| Acute Health Effects   | Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. This material produces an irritating stench. Do not inhale and always use under a fume hood. Inhalation can result in inflammation of the respiratory system, headaches, nausea, and vomiting. Always cover all exposed skin with an impermeable layer and use proper eye protection. A OSHA/MSHA approved dust and vapor respirator is required when working with this material. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound. |
| Chronic Health Effects | <b>CARCINOGENIC EFFECTS</b> : Not available.<br><b>MUTAGENIC EFFECTS</b> : Not available.<br><b>TERATOGENIC EFFECTS</b> : Not available.<br><b>DEVELOPMENTAL TOXICITY</b> : Not available.<br>Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.   |

## Section IV. First Aid Measures

|              |   |
|--------------|---|
| Eye Contact  | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.  |
| Skin Contact | In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.  |
| Inhalation   | If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.   |
| Ingestion    | DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. |

## Section V. Fire and Explosion Data

|                     |   |                  |                   |
|---------------------|---|------------------|-------------------|
| Flammability        | Flammable.  | Auto-Ignition    | 266 °C (510.8 °F) |
| Flash Points        | -17 °C (1.4 °F).  | Flammable Limits | Not available.    |
| Combustion Products | These products are toxic carbon oxides (CO, CO <sub>2</sub> ), phosphates.  |                  |                   |
| Fire Hazards        | Not available.  |                  |                   |
| Explosion Hazards   | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Risks of explosion of the product in presence of static discharge: Not available. |                  |                   |

Continued on Next Page

Emergency phone number (800) 424-9300

Fire Fighting Media  
and Instructions

Flammable solid.  
 SMALL FIRE: Use DRY chemical powder.  
 LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.

**Section VI. Accidental Release Measures**Spill Cleanup  
Instructions

Pyrophoric material. Flammable material. Corrosive material. Lachrymatory agent. This material produces an irritating stench. Air and moisture sensitive material.  
 Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: DO NOT get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Cover with DRY earth, sand or other non-combustible material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

**Section VII. Handling and Storage**Handling and Storage  
Information

PYROPHORIC. FLAMMABLE. CORROSIVE. LACHRYMATOR. STENCH. AIR AND MOISTURE SENSITIVE. STORE UNDER INERT GAS. Keep container dry. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe dust. Never add water to this product. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively.  
 Always store away from incompatible compounds such as oxidizing agents, moisture.

**Section VIII. Exposure Controls/Personal Protection**

## Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

## Personal Protection

Face shield. Lab coat. Dust respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



## Exposure Limits

Not available.

**Section IX. Physical and Chemical Properties**

## Physical state @ 20°C

Solid. (White crystal lumps.)

## Solubility

Soluble in many organic solvents.  
 Insoluble in water.

## Specific Gravity

Not available.

## Molecular Weight

202.32

## Partition Coefficient

Not available.

## Boiling Point

210°C (410°F)

## Vapor Pressure

Not applicable.

## Melting Point

30°C (86°F)

## Vapor Density

Not available.

## Refractive Index

Not available.

## Volatility

Not available.

## Critical Temperature

Not available.

## Odor

Characteristic.

## Viscosity

Not available.

## Taste

Not available.

**Section X. Stability and Reactivity Data**

## Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

## Conditions of Instability

Air sensitive. Moisture sensitive.  
 Store under inert gas.

## Incompatibilities

Reactive with oxidizing agents, moisture, air.

**Section XI. Toxicological Information**

## RTECS Number

Not available.

## Routes of Exposure

Eye Contact. Ingestion. Inhalation. Skin contact.

## Toxicity Data

Not available.

## Chronic Toxic Effects

**CARCINOGENIC EFFECTS** : Not available.  
**MUTAGENIC EFFECTS** : Not available.  
**TERATOGENIC EFFECTS** : Not available.  
**DEVELOPMENTAL TOXICITY**: Not available.  
 Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

## Acute Toxic Effects

Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. This material produces an irritating stench. Do not inhale and always use under a fume hood. Inhalation can result in inflammation of the respiratory system, headaches, nausea, and vomiting. Always cover all exposed skin with an impermeable layer and use proper eye protection. A OSHA/MSHA approved dust and vapor respirator is required when working with this material.

Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

## Ecotoxicity

Not available.

## Environmental Fate

Not available.

**Section XIII. Disposal Considerations**

## Waste Disposal

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

**Section XIV. Transport Information**

## DOT Classification

**FORBIDDEN BY AIR**  
DOT CLASS 4.2: Pyrophoric

## PIN Number

UN2846

## Proper Shipping Name

Pyrophoric solids, organic, n.o.s.

## Packing Group (PG)

I

## DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

## TSCA Chemical Inventory (EPA)

This product is **NOT** on the EPA Toxic Substances Control Act (TSCA) inventory. The following notices are required by 40 CFR 720.36 (C) for those products not on the inventory list:

(i) These products are supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720.0 et seq.

(ii) The health risks of these products have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.

## WHMIS Classification (Canada)

CLASS B-4: Flammable solid.  
CLASS E: Corrosive solid.

## EINECS Number (EEC)

237-266-4

## EEC Risk Statements

R11- Highly flammable.  
R18- In use, may form flammable/explosive vapor-air mixture.  
R34- Causes burns.

## Japanese Regulatory Data

Not available.

**Section XVI. Other Information**

## Version 1.0

Validated on 1/7/2009.

Printed 1/7/2009.

**Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.