

**Material Safety Data Sheet**

acc. to OSHA and ANSI

Printing date 05/13/2010

Reviewed on 05/12/2010

**1 Identification of substance:****Product details:****Product name:** Triethylphosphine**Stock number:** 30177**Manufacturer/Supplier:**

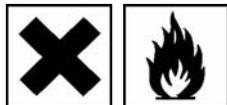
Alfa Aesar, A Johnson Matthey Company  
 Johnson Matthey Catalog Company, Inc.  
 30 Bond Street  
 Ward Hill, MA 01835-8099  
 Emergency Phone: (978) 521-6300  
 CHEMTREC: (800) 424-9300  
 Web Site: www.alfa.com

**Information Department:** Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

**2 Composition/Data on components:****Chemical characterization:****Description: (CAS#)**

Triethylphosphine (CAS# 554-70-1)

**Identification number(s):****EINECS Number:** 209-068-8**3 Hazards identification****Hazard description:**

Xn Harmful  
 F Highly flammable

**Information pertaining to particular dangers for man and environment**

R 17 Spontaneously flammable in air.

R 20 Harmful by inhalation.

**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	2
FIRE	4
REACTIVITY	3

Health (acute effects) = 2

Flammability = 4

Reactivity = 3

**GHS label elements****Danger**

2.6/2 - Highly flammable liquid and vapour.

2.9/1 - Catches fire spontaneously if exposed to air.

2.11/2 - Self-heating in large quantities; may catch fire.

**Warning**

3.1/4 - Harmful if inhaled.

**Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not allow contact with air.

Use explosion-proof electrical/ventilating/lighting/equipment.

**Response:**

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

**Storage:**

Store contents under inert gas.

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

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**4 First aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek immediate medical advice.

**5 Fire fighting measures****Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards caused by the material, its products of combustion or resulting gases:**

During heating or in case of fire poisonous gases are produced.

**Protective equipment:**

Wear self-contained respirator.  
Wear fully protective impervious suit.

**6 Accidental release measures****Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

**Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage****Handling****Information for safe handling:**

Handle under protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:**

Keep ignition sources away.

Substance/product is self ignitable.

**Storage**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from oxidizing agents.

Store away from air.

**Further information about storage conditions:**

Store under inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**8 Exposure controls and personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with limit values that require monitoring at the workplace:** Not required.

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**Additional information:** No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

**Breathing equipment:** Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:**

Safety glasses

Full face protection

**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Pungent

**Change in condition**

<b>Melting point/Melting range:</b>	-88°C (-126°F)
<b>Boiling point/Boiling range:</b>	126-128°C (259-262°F)
<b>Sublimation temperature / start:</b>	Not determined

**Flash point:** -17°C (1°F)**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Auto igniting:** Spontaneously flammable in air.**Explosion limits:**

<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined

**Vapor pressure:** Not determined**Density at 20°C (68°F):** 0.81 g/cm<sup>3</sup>**Solubility in / Miscibility with Water:** Not miscible or difficult to mix**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:**

Air

Oxidizing agents

**Dangerous reactions**

Immediate ignition on contact with air

Spontaneously flammable in air.

**Dangerous products of decomposition:**

Carbon monoxide and carbon dioxide

Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>)

Hydrogen phosphide (Phosphine)

**11 Toxicological information****Acute toxicity:****Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

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Organic phosphorus compounds exhibit a wide range of toxicity. Most are skin and eye irritants with the more volatile also being respiratory irritants. Those exhibiting substantial water reactivity will have stronger irritating properties and may be corrosive enough to cause severe burns. Some organic phosphorus compounds are cholinesterase inhibitors. Symptoms associated with these include muscle twitching, convulsions, flaccid paralysis, coma, respiratory failure. They can be highly paralytic.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:****Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits.

**13 Disposal considerations****Product:**

**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**14 Transport information****DOT regulations:**

**Hazard class:** 4.2  
**Identification number:** UN2845  
**Packing group:** I  
**Proper shipping name (technical name):** PYROPHORIC LIQUID, ORGANIC, N.O.S.  
 (Triethylphosphine)  
**Label** 4.2

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** 4.2 (S1) Substances liable to spontaneous combustion  
**Danger code (Kemler):** 333  
**UN-Number:** 2845  
**Packaging group:** I  
**Description of goods:** 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S.  
 (Triethylphosphine)

**Maritime transport IMDG:**

**IMDG Class:** 4.2  
**UN Number:** 2845  
**Label** 4.2  
**Packaging group:** I  
**Marine pollutant:** No

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**Product name: Triethylphosphine**

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**Proper shipping name:** PYROPHORIC LIQUID, ORGANIC, N.O.S.  
(Triethylphosphine)

**Air transport ICAO-TI and IATA-DGR:**



**ICAO/IATA Class:** 4.2  
**UN/ID Number:** 2845  
**Label:** 4.2  
**Packaging group:** I  
**Proper shipping name:** PYROPHORIC LIQUID, ORGANIC, N.O.S.  
(Triethylphosphine)

**UN "Model Regulation":** UN2845, PYROPHORIC LIQUID, ORGANIC, N.O.S., 4.2, I

**15 Regulations**

**Product related hazard informations:**

**Hazard symbols:**

Xn Harmful

F Highly flammable

**Risk phrases:**

17 Spontaneously flammable in air.

20 Harmful by inhalation.

**Safety phrases:**

9 Keep container in a well-ventilated place.

36 Wear suitable protective clothing.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

**Information about limitation of use:** For use only by technically qualified individuals.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:** Zachariah Holt

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

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