

Preparation Date 04-Sep-2007

Revision Date 15-Jul-2013

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name **TRIPHENYL PHOSPHINE**

Other means of identification

Product Code 3608700
CAS Number 603-35-0
Formula C₁₈H₁₅P
Synonyms Triphenyl Phosphine; Phosphine, Triphenyl-

Recommended use of the chemical and restrictions on use

Recommended Use Coatings
Uses advised against Repeated contact with food. Avoid prolonged contact with eyes, skin, and clothing.

Details of the supplier of the safety data sheet

Supplier Address



Emergency Telephone Number(s)

ChemTrec: 1-800-424-9300

Outside of the United States: 1-703-527-3887

2. HAZARDS IDENTIFICATION

Classification

Acute Toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Label elements**Emergency Overview****Signal Word****Warning****Hazard statements**

Harmful if swallowed

Harmful if inhaled

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation. May cause drowsiness or dizziness

**Appearance**

White Flakes

Physical State

Solid

Odor

Odorless

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Specific treatment (see supplemental first aid instructions on this label)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None known

Other Information

- Very toxic to aquatic life with long lasting effects

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms Triphenyl Phosphine; Phosphine, Triphenyl-

Formula C18H15P

Chemical Name	CAS-No	Weight %	North American Hazard Indicator
Triphenyl Phosphine	603-35-0	100	True

4. FIRST AID MEASURES

First Aid Measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Consult a physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Consult a physician.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms and effects, both acute and delayed

Main Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Water spray. Dry chemical. Carbon dioxide (CO₂). Alcohol-resistant foam.

Unsuitable Extinguishing Media No information available.

Hazardous Combustion Products Thermal decomposition or combustion may produce hazardous gases and/or materials.

Explosion Data

Sensitivity to mechanical impact Not available.

Sensitivity to static discharge Not available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapours.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental Precautions

Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

Methods and material for containment and cleaning up**Methods for Cleaning up**

Evacuate personnel to safe areas. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for Safe Handling**Handling**

Use only in an area equipped with a safety shower. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation. Do not breathe vapours/dust. Avoid contact with skin, eyes and clothing. Avoid repeated exposure.

Conditions for safe storage, including any incompatibilities**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers.

Incompatible Materials

Oxidizing agents. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Triphenyl Phospine 603-35-0	-	-	-

Appropriate engineering controls**Engineering Controls**

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment**Eye/face Protection**

Tightly fitting safety goggles.

Skin and body protection	Wear protective gloves and protective clothing.
Respiratory Protection	In case of insufficient ventilation, wear suitable respiratory equipment.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White Flakes
Physical State	Solid
Odor	Odorless
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	
Melting/freezing point	78.5 - 81.5 °C	Literary Reference
Boiling Point/Range	No data available °C	
Flash Point	180 °C / 356 °F Open cup	
Flammability (solid, gas)		
Flammability Limits in Air		
upper flammability limit		
lower flammability limit	0.5%	
Vapor Pressure	5 mmHg @ 20°C	
Vapor Density	9	
Specific Gravity	1.2	
Water Solubility	Insoluble	
Solubility in other solvents	No information available	
Partition coefficient: n-octanol/water	Not available	
Autoignition temp (°C)	No data available	Estimated
Decomposition temperature		
Viscosity, kinematic		
Viscosity, dynamic	Not available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other Information

Softening Point	No information available
Molecular Weight	262.28
VOC Content	No information available
Density	No information available
Bulk Density	31 lbs/ft ³

10. STABILITY AND REACTIVITY

Reactivity	Not applicable.
Chemical Stability	Stable under normal conditions
Hazardous Polymerization	Hazardous polymerisation does not occur
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	Oxidizing agents. Acids.
Hazardous Decomposition Products	Carbon dioxide (CO ₂) Carbon monoxide Oxides of phosphorus Phosphorus trihydride (phosphine)

Possibility of Hazardous Reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION**Product Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Triphenyl Phosphine 603-35-0	= 700 mg/kg (Rat)	> 2500 mg/kg (Rat) > 4000 mg/kg (Rabbit)	= 1135 ppm (Rat) 4 h = 12 mg/L (Rat) 4 h

Information on likely routes of exposure

Eyes	Irritating to eyes. May cause severe irritation. Risk of serious damage to eyes. Avoid contact with eyes.
Skin	May be harmful by skin contact. Irritating to skin. May cause sensitization by skin contact. Avoid contact with skin.
Inhalation	Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Irritating to mucous membranes. Irritating to respiratory system. May cause neurotic effects including paresthesia. Avoid breathing dust.
Ingestion	Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Do not ingest.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	Eye,rabbit: 500 mg/24H MLD ; Skin,rabbit: 500 MLD mg/24H
Eye damage/irritation	No information available.
Skin Corrosion/Irritation	No information available.
Sensitization	May cause sensitization by skin contact.
Reproductive Effects	No information available.
Mutagenic Effects	No information available.
Developmental Effects	No information available.
STOT - single exposure	No information available.
STOT - Repeated Exposure	No information available.
Chronic Toxicity	Avoid repeated exposure. Target Organ Effects.
Target Organ Effects	Nerves, Heart.
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	700 mg/kg
ATEmix (inhalation-gas)	4500 mg/L
ATEmix (inhalation-dust/mist)	1.5 mg/L
ATEmix (inhalation-vapor)	11 mg/L

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Dangerous for the environment. Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Freshwater Algae Data	Freshwater Fish Species Data	Microtox Data	Water Flea Data
Triphenyl Phospine 603-35-0			= 1.54 mg/L EC50 Photobacterium phosphoreum 30 min > 10000 mg/L EC50 Pseudomonas putida 30 min	= 0.6 mg/L EC50

Persistence / Degradability

Not readily biodegradable (<20 % after <20 days).

Bioaccumulation / Accumulation

Does not bioaccumulate.

Mobility in Soil

No information available.

Chemical Name	log Pow =
Triphenyl Phospine 603-35-0	>2.587 at 25 °C

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Waste Disposal Method**

Contact waste disposal services. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of in accordance with local regulations. Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION**DOT**

Not regulated

TDG

Not regulated

MEX

Not regulated

ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories

U.S.A. (TSCA)	Complies
Canada (DSL)	Complies
EU (EINECS)	Complies
EU (ELINCS)	Does not Comply
Japan (ENCS)	Complies
China	Complies
Korea (KECL)	Complies
Philippines (PICCS)	Complies
Australia (AICS)	Complies

Chemical Name	U.S.A. (TSCA)	Canada (DSL)	EU (EINECS)	EU (ELINCS)	
Triphenyl Phospine	Present	Present	Present	-	
Chemical Name	Japan (ENCS)	China	Korea (KECL)	Philippines (PICCS)	Australia (AICS)
Triphenyl Phospine	Present (3)-2518	Present	Present	Present	Present

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

*State Regulations***California Proposition 65**

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

This product does not contain any State Right-to-Know chemicals.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

*Canada***WHMIS Statement**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION**NFPA**

Health 2

Flammability 1

Instability 0

Physical Hazard 0



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Revision Date

15-Jul-2013

Revision Summary

Not available

Disclaimer

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