



# TRIPHENYLPHOSPHINE (D15, 99%)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 24/04/2014

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Version: 2.0

DLM-9500

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Substance  
Substance name : TRIPHENYLPHOSPHINE (D15, 99%)  
EC No : 210-036-0  
CAS No : 24762-44-5 (Labeled)  
Product code : DLM-9500  
Formula : (C6D5)3P  
Synonyms : Phosphorustriphenyl

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302  
Skin Sens. 1 H317  
STOT RE 2 H373  
Aquatic Chronic 1 H410

Full text of hazard classes and H-statements : see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

R43  
Xn; R48/22  
N; R50/53

Full text of R-phrases: see section 16

#### GHS-US classification

Acute Tox. 4 (Oral) H302  
Skin Sens. 1 H317  
STOT RE 2 H373  
Aquatic Chronic 1 H410

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

#### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Warning

Hazard statements (CLP) :

H302 - Harmful if swallowed  
H317 - May cause an allergic skin reaction  
H373 - May cause damage to organs through prolonged or repeated exposure  
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P260 - Do not breathe dust, fume, gas, mist, spray, vapors  
P264 - Wash hands, forearms and face thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P273 - Avoid release to the environment  
P280 - Wear protective clothing, protective gloves  
P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water

#### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H302 - Harmful if swallowed  
H317 - May cause an allergic skin reaction  
H373 - May cause damage to organs through prolonged or repeated exposure  
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Precautionary statements (GHS-US) :

P260 - Do not breathe dust, fume, gas, mist, spray, vapors  
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors  
P264 - Wash hands, forearms and face thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P272 - Contaminated work clothing must not be allowed out of the workplace  
P273 - Avoid release to the environment  
P280 - Wear protective clothing, protective gloves  
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell  
P302+P352 - If on skin: Wash with plenty of water  
P314 - Get medical advice/attention if you feel unwell  
P321 - Specific treatment (see Hazardous component(s) for labeling on this label)  
P330 - Rinse mouth  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P363 - Wash contaminated clothing before reuse  
P391 - Collect spillage  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
TRIPHENYLPHOSPHINE (D15, 99%)	(CAS No) 24762-44-5 (Labeled) (EC No) 210-036-0	100	R43 Xn; R48/22 N; R50/53

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
TRIPHENYLPHOSPHINE (D15, 99%)	(CAS No) 24762-44-5 (Labeled) (EC No) 210-036-0	100	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 1, H410

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
TRIPHENYLPHOSPHINE (D15, 99%) (Main constituent)	(CAS No) 24762-44-5 (Labeled)	100	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause allergic skin reaction.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: Harmful if swallowed.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment	: Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.
Methods for cleaning up	: This material and its container must be disposed of in a safe way, and as per local legislation.

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### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Store in a well-ventilated place. Keep container tightly closed.
Storage conditions	: Store at room temperature away from light and moisture.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Appropriate engineering controls	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Personal protective equipment	: Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing	: Wear suitable protective clothing and gloves.
Hand protection	: Wear suitable protective clothing and gloves.
Eye protection	: Wear eye protection. Chemical goggles or face shield with safety glasses.
Skin and body protection	: Wear suitable protective clothing, gloves and eye/face protection.
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
Environmental exposure controls	: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid
Molecular mass	: 277.38 g/mol
Color	: White
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 79 (≥ 81) °C °C (174 - 178 °F)
Freezing point	: No data available
Boiling point	: 377 °C (711 °F)
Flash point	: 180 °C (356 °F) - closed cup
Auto-ignition temperature	: 425 °C (797°F) at 983 hPa (737 mmHg)
Decomposition temperature	: No data available
Flammability (solid, gas)	: The product is not flammable. – Flammability (solids)
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 9.06 - (Air = 1.0)
Relative density	: No data available
Solubility	: Water: 0.00017 g/l at 22°C (72°F)
Log Pow	: 502 at 25 °C (77° F)

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Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

Formed under fire conditions: Carbon oxides, Phosphorus oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))	
LD50 oral rat	700 mg/kg Remarks: Behavioral: Convulsions or effect on seizure threshold
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (ppm)	1135 ppm/4h
ATE CLP (oral)	700.000 mg/kg body weight
ATE CLP (gases)	1135.000 ppmV/4h

Skin corrosion/irritation	: Skin - Rabbit Result: No skin irritation - 20 h
Serious eye damage/irritation	: Eyes - Rabbit Result: No eye irritation - 24 h
Respiratory or skin sensitization	: Maximisation Test (GPMT) - Guinea pig Does not cause skin sensitization. (Directive 67/548/EEC, Annex V, B.6.)
Germ cell mutagenicity	: AMES test. S. typhimurium result: negative
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))	
Additional information	Repeated dose toxicity

Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause allergic skin reaction.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: Harmful if swallowed.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

#### TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))

LC50 fish 1	10000 mg/l - Leuciscus idus (Golden orfe) -96h
EC50 other aquatic organisms 1	5 mg/l Daphnia magna (Water flea) - 48h (OECD Test Guideline 202)

#### 12.2. Persistence and degradability

#### TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))

Persistence and degradability	Biodegradability aerobic - Exposure time 28 d. Result: 2% - Not biodegradable.
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#### 12.3. Bioaccumulative potential

#### TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))

Log Pow	502 at 25 °C (77° F)
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of an unprofessional handling or disposal. Harmful to aquatic life.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.

Product/Packaging disposal recommendations: : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

Not applicable

#### 14.2. UN proper shipping name

Not applicable

#### 14.3. Additional information

Other information : No supplementary information available.

#### Overland transport

Packing group (ADR) : III  
Class (ADR) : 9 - Miscellaneous dangerous substances and articles  
Hazard identification number (Kemler No.) : 90  
Classification code (ADR) : M7  
Hazard labels (ADR) : 9 - Miscellaneous dangerous substances and articles



Orange plates :

Tunnel restriction code (ADR) : E

Limited quantities (ADR) : 5kg

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EAC : 2Z  
Excepted quantities (ADR) : E1

### Transport by sea

MFAG-No : 171

### Air transport

Civil Aeronautics Law : Miscellaneous dangerous substances & articles

## 14.4. Environmental hazards

Dangerous for the environment :



Other information : No supplementary information available.

## 14.5. Special precautions for user

## 14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	SARA 313: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313

### 15.2. International regulations

#### CANADA

TRIPHENYLPHOSPHINE (D15, 99%) (24762-44-5 (Labeled))
Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

TRIPHENYLPHOSPHINE (D15, 99%)(24762-44-5 (Labeled))	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

## SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Skin Sens. 1	Skin sensitization Category 1

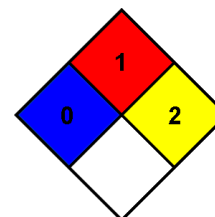
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STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H373	May cause damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects
R43	May cause sensitization by skin contact
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
Xn	Harmful

- NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 2 - Materials that readily undergo violent chemical change at elevated temperatures and pressures.



### HMIS III Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 1 Slight Hazard
- Physical : 2 Moderate Hazard

CIL Multi-Solvent Mixture SDS

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*