



## DIPHENYLPHOSPHINE

Safety Data Sheet OMPH029

Date of issue: 12/06/2016

Version: 1.0

### SECTION 1: Identification

#### 1.1. Product identifier

Product name : DIPHENYLPHOSPHINE  
 Product code : OMPH029  
 Product form : Substance  
 Physical state : Liquid  
 Formula : C<sub>12</sub>H<sub>11</sub>P  
 Synonyms : PHOSPHINE, DIPHENYL-  
 Chemical family : ORGANOPHOSPHORUS COMPOUND

#### 1.2. Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate  
 For research and industrial use only

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

##### GELEST, INC.

11 East Steel Road  
 Morrisville, PA 19067  
 USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Pyrophoric liquids Category 1 H250  
 Skin corrosion/irritation Category 2 H315  
 Serious eye damage/eye irritation Category 2A H319  
 Specific target organ toxicity (single exposure) Category 3 H335  
 Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02



GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H250 - Catches fire spontaneously if exposed to air  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H335 - May cause respiratory irritation

Precautionary statements (GHS-US) :

P210 - Keep away from heat, open flames, sparks. - No smoking  
 P222 - Do not allow contact with air  
 P261 - Avoid breathing vapors  
 P264 - Wash hands thoroughly after handling  
 P271 - Use only outdoors or in a well-ventilated area  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P302+P334 - If on skin: Immerse in cool water/wrap with wet bandages  
 P302+P352 - If on skin: Wash with plenty of water/...  
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P312 - Call a doctor if you feel unwell  
 P321 - Specific treatment (see first aid instructions on this label)  
 P332+P313 - If skin irritation occurs: Get medical advice/attention  
 P337+P313 - If eye irritation persists: Get medical advice/attention  
 P362+P364 - Take off contaminated clothing and wash it before reuse

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P370+P378 - In case of fire: Use dry chemical powder followed by sand or dolomite to extinguish  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up  
P422 - Store contents under nitrogen or argon in sealed containers below 25°C  
P501 - Dispose of contents/container to licensed waste disposal facility

### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Mono-constituent  
Name : DIPHENYLPHOSPHINE  
CAS No : 829-85-6

Name	Product identifier	%	GHS-US classification
Diphenylphosphine	(CAS No) 829-85-6	95 - 100	Pyr. Liq. 1, H250 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

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

### 3.2. Mixtures

Not applicable

### 4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

Symptoms/injuries after ingestion : May be 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 : Dry chemical powder followed by sand or dolomite.

Unsuitable extinguishing media : Do not use straight streams.

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

Fire hazard : Catches fire spontaneously if exposed to air. Pyrophoric liquid. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Explosion hazard : In contact with combustible materials such as paper and textiles, ignites spontaneously in air. Bulk liquid does not ignite spontaneously.

### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

Other information : PYROPHORIC- MAY IGNITE SPONTANEOUSLY ON CONTACT WITH AIR.

## SECTION 6: Accidental release measures

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

General measures : Eliminate every possible source of ignition.

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### 6.1.1. For non-emergency personnel

Protective equipment	: Wear protective equipment as described in Section 8.
Emergency procedures	: Evacuate unnecessary personnel.

### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
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### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Clean up any spills as soon as possible, using an absorbent material to collect it.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. PYROPHORIC- MAY IGNITE SPONTANEOUSLY ON CONTACT WITH AIR. Product will ignite spontaneously if heated.
Precautions for safe handling	: Avoid all eye and skin contact and do not breathe vapor and mist. Do not allow contact with air. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions	: Keep container tightly closed. Store locked up. Store in sealed containers under inert atmosphere.
Incompatible materials	: Alkalis. Bromine. Chlorine. Metal salts. Precious metals.
Storage area	: Store in a well-ventilated place. Store away from heat.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation.
Personal protective equipment	: Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection	: Neoprene or nitrile rubber gloves.
Eye protection	: Chemical goggles or face shield. Full face shield with chemical workers goggles.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Clear liquid. Fumes slowly in air.
Molecular mass	: 186.2 g/mol
Color	: No data available
Odor	: Unpleasant. Pungent.
Odor threshold	: No data available
Refractive index	: 1.625
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: < 0 °C

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Freezing point	: No data available
Boiling point	: 280 °C
Flash point	: 110 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Catches fire spontaneously if exposed to air,Pyrophoric liquid
Vapor pressure	: 2 mm Hg
Relative vapor density at 20 °C	: > 1
Relative density	: 1.07
Solubility	: Insoluble in water. Reacts slowly with water.
Log Pow	: No data available
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 in sealed containers under dry inert atmosphere. Oxidizes in air.

### 10.3. Possibility of hazardous reactions

Will ignite spontaneously in contact with high surface area combustibles such as paper and textiles.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Alkalis. Bromine. Chlorine. Metal salts. Precious metals.

### 10.6. Hazardous decomposition products

Organic acid vapors. Phosphine oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified May cause damage to organs through prolonged or repeated exposure
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

Effect on ozone layer : No additional information available

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Waste disposal recommendations : Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility. This is a RCRA hazardous waste: 40 CFR 261.21 (i.e. ignitable) 40 CFR 261.23 (i.e. reactive).

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

UN-No.(DOT) : 2845

DOT NA no. UN2845

#### 14.2. UN proper shipping name

Transport document description : UN2845 Pyrophoric liquids, organic, n.o.s. (DIPHENYLPHOSPHINE), 4.2, I

Proper Shipping Name (DOT) : Pyrophoric liquids, organic, n.o.s. (DIPHENYLPHOSPHINE)

Class (DOT) : 4.2 - Class 4.2 - Spontaneously combustible material 49 CFR 173.124

Packing group (DOT) : I - Great Danger

Hazard labels (DOT) : 4.2 - Spontaneously combustible



DOT Packaging Non Bulk (49 CFR 173.xxx) : 181

DOT Packaging Bulk (49 CFR 173.xxx) : 244

DOT Packaging Exceptions (49 CFR 173.xxx) : None

DOT Symbols : G - Identifies PSN requiring a technical name

#### 14.3. Additional information

Emergency Response Guide (ERG) Number : 135

Other information : No supplementary information available.

#### Transport by sea

DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded

DOT Vessel Stowage Other : 13 - Keep as dry as reasonably practicable, 78 - Stow "separated longitudinally by an intervening complete compartment or hold from" explosives

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### Air transport

DOT Quantity Limitations Passenger aircraft/rail : Forbidden  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : Forbidden  
CFR 175.75)

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Diphenylphosphine (829-85-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

#### Diphenylphosphine (829-85-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### National regulations

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Full text of H-phrases::

H250	Catches fire spontaneously if exposed to air
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling.

### HMIS III Rating

Health	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability	: 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)
Physical	: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Date of issue: 12/06/2016 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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