



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

1.1. Product identifier

Product form : Substance
 Physical state : Liquid
 Substance name : DIPHENYLPHOSPHINE
 Product code : OMPH029
 Formula : C12H11P
 Synonyms : PHOSPHINE, DIPHENYL-
 Chemical family : ORGANOPHOSPHORUS COMPOUND

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

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
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info@gelestde.com - www.gelestde.com

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Pyrophoric Liquids, Category 1 H250
 Skin corrosion/irritation, Category 2 H315
 Serious eye damage/eye irritation, Category 2 H319
 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335
 Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02



GHS07

Signal word (CLP) : Danger

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Hazard statements (CLP)	: H250 - Catches fire spontaneously if exposed to air. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P222 - Do not allow contact with air. P261 - Avoid breathing vapours. P264 - Wash hands thoroughly after handling. P312 - Call a doctor if you feel unwell.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
Name	: DIPHENYLPHOSPHINE
CAS-No.	: 829-85-6
EC-No.	: 212-591-4

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Diphenylphosphine	(CAS-No.) 829-85-6 (EC-No.) 212-591-4	95 - 100	Pyr. Liq. 1, H250 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of 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/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects 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.

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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 vapour 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, hot surfaces, sparks, open flames and other ignition sources. 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 vapour 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.

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:

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.

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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
Colour	: No data available
Odour	: Unpleasant. Pungent.
Odour threshold	: No data available
Refractive index	: 1.625
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: < 0 °C
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
Vapour pressure	: 2 mm Hg
Relative vapour 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
Oxidising properties	: No data available
Explosive 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

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Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: 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
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	: Toxic to aquatic life with long lasting effects.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

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. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects	: This substance may be hazardous to the environment.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

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

14.1. UN number

UN-No. (ADR)	: 2845
UN-No. (IMDG)	: 2845
UN-No. (IATA)	: 2845
UN-No. (ADN)	: 2845
UN-No. (RID)	: 2845

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: Pyrophoric liquid, organic, n.o.s.
Proper Shipping Name (ADN)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.

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Proper Shipping Name (RID)	: PYROPHORIC LIQUID, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (DIPHENYLPHOSPHINE), 4.2, I, (B/E)
Transport document description (IMDG)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (DIPHENYLPHOSPHINE), 4.2, I
Transport document description (IATA)	: UN 2845 Pyrophoric liquid, organic, n.o.s. (DIPHENYLPHOSPHINE), 4.2
Transport document description (ADN)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (DIPHENYLPHOSPHINE), 4.2, I
Transport document description (RID)	: UN 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. (DIPHENYLPHOSPHINE), 4.2, I

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 4.2
Danger labels (ADR)	: 4.2



IMDG

Transport hazard class(es) (IMDG)	: 4.2
Danger labels (IMDG)	: 4.2



IATA

Transport hazard class(es) (IATA)	: 4.2
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ADN

Transport hazard class(es) (ADN)	: 4.2
Danger labels (ADN)	: 4.2



RID

Transport hazard class(es) (RID)	: 4.2
Danger labels (RID)	: 4.2



14.4. Packing group

Packing group (ADR)	: I
Packing group (IMDG)	: I
Packing group (IATA)	: Not applicable
Packing group (ADN)	: I
Packing group (RID)	: I

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

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14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: S1
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P400
Mixed packing provisions (ADR)	: MP2
Portable tank and bulk container instructions (ADR)	: T22
Portable tank and bulk container special provisions (ADR)	: TP2, TP7
Tank code (ADR)	: L21DH
Tank special provisions (ADR)	: TU14, TC1, TE21, TM1
Vehicle for tank carriage	: AT
Transport category (ADR)	: 0
Special provisions for carriage - Packages (ADR)	: V1
Special provisions for carriage - Operation (ADR)	: S20
Hazard identification number (Kemler No.)	: 333
Orange plates	:

333

2845

Tunnel restriction code (ADR) : B/E

- Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P400
Special packing provisions (IMDG)	: PP31
Tank instructions (IMDG)	: T22
Tank special provisions (IMDG)	: TP2, TP7
EmS-No. (Fire)	: F-G
EmS-No. (Spillage)	: S-M
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: H1
Segregation (IMDG)	: SG63, SG26
Properties and observations (IMDG)	: Highly flammable liquids, may ignite spontaneously in moist air. In contact with air, evolve irritating and slightly toxic fumes.

- Air transport

PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
ERG code (IATA)	: 4W

- Inland waterway transport

Classification code (ADN)	: S1
Special provisions (ADN)	: 274
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

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- Rail transport

Classification code (RID)	: S1
Special provisions (RID)	: 274
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P400
Mixed packing provisions (RID)	: MP2
Portable tank and bulk container instructions (RID)	: T22
Portable tank and bulk container special provisions (RID)	: TP2, TP7
Tank codes for RID tanks (RID)	: L21DH
Special provisions for RID tanks (RID)	: TU14, TU38, TC1, TE21, TE22, TE25, TM1
Transport category (RID)	: 0
Special provisions for carriage – Packages (RID)	: W1
Hazard identification number (RID)	: 333

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

DIPHENYLPHOSPHINE is not on the REACH Candidate List

DIPHENYLPHOSPHINE is not on the REACH Annex XIV List

DIPHENYLPHOSPHINE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

DIPHENYLPHOSPHINE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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; APF: Assigned Protection Factor
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Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Pyr. Liq. 1	Pyrophoric Liquids, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H250	Catches fire spontaneously if exposed to air.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II) - Custom

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