

Safety Data Sheet

Triphenyl phosphine pellets

Revision date : 2025/02/24

Version: 9.0

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(30060669/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Triphenyl phosphine pellets

Recommended use of the chemical and restriction on use

Recommended use*: Chemical used in synthesis and/or formulation of industrial products

Recommended use*: Chemical

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula:	{C(6)H(5)} ₃ P
Chemical family:	No data available.
Synonyms:	TRIPHENYLPHOSPHINE TRIPHENYLPHOSPHORUS, TPP

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
STOT RE	1	Specific target organ toxicity — repeated

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Skin Sens.
Aquatic Chronic

1B
4

exposure
Skin sensitization
Hazardous to the aquatic environment - chronic

Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H372 Causes damage to organs (Central nervous system, Peripheral nervous system) through prolonged or repeated exposure.
H413 May cause long lasting harmful effects to aquatic life.

Precautionary Statements (Prevention):

P280 Wear protective gloves.
P260 Do not breathe dust.
P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P264 Wash contaminated body parts thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P314 Get medical advice/attention if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501 Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

triphenylphosphine

CAS Number: 603-35-0

Content (W/W): ≥ 99.5 - $\leq 100.0\%$

Synonym: Triphenylphosphine

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4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Information on: triphenylphosphine

Symptoms: Overexposure may cause: corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, allergic contact dermatitis, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.
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5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

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Additional information:

Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

phosphorus oxides, nitrogen oxides, carbon oxides

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dust can form an explosive mixture with air. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:

Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:

Avoid the formation and build-up of dust - danger of dust explosion. Avoid dispersal of dust in the air (e.g. by clearing dusty surfaces with compressed air). Water spray may be used to flush spills away from exposure.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8. Ensure adequate ventilation. Avoid skin contact and inhalation of dust/aerosol.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For large amounts: Sweep/shovel up. Collect waste in suitable containers, which can be labeled and sealed.

For residues: Sweep/shovel up.

Dispose of absorbed material in accordance with regulations. Avoid raising dust. Cleaning operations should be carried out only while wearing breathing apparatus. Wear suitable protective equipment.

Ensure adequate ventilation.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Product should be worked up in closed equipment as far as possible. Wear suitable protective clothing and eye/face protection.

Protection against fire and explosion:

Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

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Conditions for safe storage, including any incompatibilities

Segregate from strong oxidizing agents.

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Storage stability:

Storage duration: 24 Months

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

8. Exposure Controls/Personal Protection

No substance specific occupational exposure limits known.

Advice on system design:

Provide local exhaust ventilation to control dust.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:

Chemical resistant protective gloves should be worn to prevent all skin contact., Consult with glove manufacturer for testing data., Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid inhalation of dusts. Avoid contact with the skin, eyes and clothing. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

9. Physical and Chemical Properties

Form:	solid	
Odour:	faint specific odour	
Odour threshold:	Not determined since harmful by inhalation.	
Colour:	white to slightly yellow	
pH value:	not applicable, The substance does not dissociate.	
melting range:	81.3 - 81.6 °C	(DIN EN ISO 3146)
Freezing point:	No data available.	

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Melting point:	No data available.	
Boiling range:	195 - 205 °C (7 mbar)	
Boiling point:	377.74 °C (1,013.25 hPa)	(other)
Flash point:	180 °C	(DIN 51584)
Flammability:	not highly flammable	(Directive 84/449/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Autoignition:	425 °C	(DIN 51794)
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	
Vapour pressure:	0.0000012 hPa (20 °C) 0.0000029 hPa (25 °C) 0.00017 hPa (50 °C)	(OECD Guideline 104) (OECD Guideline 104) (OECD Guideline 104)
Density:	1.105 g/cm3 (20 °C) Literature data.	(other)
Relative density:	1.105 (20 °C) Literature data.	(other)
Bulk density:	500 - 600 kg/m3	
Vapour density:	not applicable	
Partitioning coefficient n- octanol/water (log Pow):	5.021 (25 °C) The substance / product decomposes therefore not determined.	(calculated)
Self-ignition temperature:	Based on its structural properties the product is not classified as self- igniting. The value has not be determined because of the low risk of self-ignition in consequence of the low melting point.	
Thermal decomposition:	170 °C, > 100 J/g (DSC (DIN 51007)) It is not a self-decompositionable substance.	
Viscosity, dynamic:	not applicable, the product is a solid	
Viscosity, kinematic:	not applicable, the product is a solid	
Particle size:	D50 854.0 µm The substance / product is marketed or used in a non solid or granular form.	(ISO 13320-1)
Solubility in water:	< 0.165 mg/l (20 °C)	
Molar mass:	262.29 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

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10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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Chemical stability

Possibility of hazardous reactions

The product may contain explosive fine dust or such dust may be produced by abrasion during transport or product transfer.

Conditions to avoid

Temperature: > 370 degrees Celsius

Avoid dust formation.

Incompatible materials

strong oxidizing agents

Hazardous decomposition products

Decomposition products:

Phosphine

Thermal decomposition:

170 °C, 2.5 K/min (DSC (DIN 51007))

It is not a self-decomposable substance.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Oral

Type of value: LD50

Species: rat (male/female)

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Value: > 6,400 mg/kg (BASF-Test)
An aqueous solution was tested.

Type of value: LD50
Species: rat (no data)
Value: approx. 700 mg/kg (BASF-Test)
The substance was tested in olive oil.

Inhalation

Type of value: LC50
Species: rat (male)
Value: 12.5 mg/l (12500 mg/m3)
Exposure time: 4 h
An aerosol was tested.

Dermal

Type of value: LD50
Species: rabbit (male/female)
Value: > 4,000 mg/kg (Limit test)
No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion

Assessment of irritating effects: Not irritating to eyes and skin.

Skin

Species: rabbit
Result: non-irritant
Method: BASF-Test

Eye

Species: rabbit
Result: non-irritant
Method: BASF-Test

Species: In vitro assay
Result: no irreversible damage
Method: OECD Guideline 437

Sensitization

Assessment of sensitization: Caused skin sensitization in animal studies.

Guinea pig maximization test

Species: guinea pig
Result: skin sensitizing
Method: Directive 84/449/EEC, B.6

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

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Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated exposure may affect certain organs. Damages the central nerve system. Damages the peripheral nerve system.

Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity

Assessment of carcinogenicity: No data available. The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity: Repeated oral uptake of the substance did not cause damage to the reproductive organs.

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Other Information

neurotoxic effect.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

No toxic effects occur within the range of solubility.

Toxicity to fish

LC50 (96 h) > 10,000 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates

EC50 (48 h) > 5 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Limit concentration test only (LIMIT test). The product has low solubility in the test medium. An eluate has been tested. The details of the toxic effect relate to the nominal concentration. No toxic effects occur within the range of solubility.

Aquatic plants

EC50 (72 h) > 5 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)

Limit concentration test only (LIMIT test). The product has low solubility in the test medium. A saturated solution has been tested. The details of the toxic effect relate to the nominal concentration. No toxic effects occur within the range of solubility.

EC10 (72 h) > 5 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)

Limit concentration test only (LIMIT test). The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. A saturated solution has been tested. No toxic effects occur within the range of solubility.

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Chronic toxicity to fish

No data available.

Chronic toxicity to aquatic invertebrates

No data available.

Assessment of terrestrial toxicity

No toxic effects have been observed in terrestrial studies.

Soil living organisms

Toxicity to soil dwelling organisms:

No observed effect concentration (28 d) $\geq$ 1,000 mg/kg, Eisenia foetida (OECD Guideline 222, artificial soil)

The details of the toxic effect relate to the nominal concentration.

Toxicity to terrestrial plants

No data available.

Other terrestrial non-mammals

No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

DIN EN ISO 8192 aquatic

activated sludge, domestic/EC50 (30 min): $>$ 1,000 mg/l

The details of the toxic effect relate to the nominal concentration. The product has not been tested.

The statement has been derived from substances/products of a similar structure or composition.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Not readily biodegradable (by OECD criteria). Poorly biodegradable.

Elimination information

$<$ 10 % (28 d) (OECD Guideline 301 F) (aerobic, activated sludge, domestic)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

Bioaccumulation potential

Bioconcentration factor: 1,366, Fish (calculated)

Mobility in soil

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Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is expected.

Additional information

Adsorbable organically-bound halogen(AOX):
This product contains no organically-bound halogen.

13. Disposal considerations

Waste disposal of substance:

Do not discharge into waterways or sewer systems without proper authorization. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of container and any rinsate in an environmentally safe manner. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US

All substances are TSCA listed and active.

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 0 Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox.

4 (oral)

Acute toxicity

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Skin Sens.	1B	Skin sensitization
STOT RE	1	Specific target organ toxicity — repeated exposure
Aquatic Chronic	4	Hazardous to the aquatic environment - chronic

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2025/02/24

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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