

## Chemical Safety Data Sheet MSDS / SDS

## Phosphamidon SDS

Revision Date:2024-04-25 Revision Number:1

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 9	Section 10	Section 11	Section 12	Section 13	Section 14	Section 15	Section 16

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

Product name: Phosphamidon

CAS: 13171-21-6

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 2, Oral

Acute toxicity - Category 3, Dermal

Germ cell mutagenicity, Category 2

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H300 Fatal if swallowed

H311 Toxic in contact with skin

H341 Suspected of causing genetic defects

H410 Very toxic to aquatic life with long lasting effects

### Precautionary statement(s)

#### Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P203 Obtain, read and follow all safety instructions before use.

P273 Avoid release to the environment.

#### Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P316 Get emergency medical help immediately.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P318 IF exposed or concerned, get medical advice.

P391 Collect spillage.

#### Storage

P405 Store locked up.

## Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### Substance

Chemical name: Phosphamidon

Common names and synonyms: Phosphamidon

CAS number: 13171-21-6

EC number: 236-116-5

Concentration: 100%

## SECTION 4: First aid measures

### Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

#### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Give a slurry of activated charcoal in water to drink. Refer immediately for medical attention. See Notes.

### **Most important symptoms/effects, acute and delayed**

This material is extremely toxic; the probable oral lethal dose for humans is 5-50 mg/kg, or between 7 drops and 1 teaspoonful for a 150-lb person. It is a cholinesterase inhibitor. (EPA, 1998)

### **Indication of immediate medical attention and special treatment needed, if necessary**

Airway protection. Insure that a clear airway exists. Intubate the patients and aspirate the secretions with a large-bore suction device if necessary. Administer oxygen by mechanically assisted pulmonary ventilation if respiration is depressed. Improve tissue oxygenation as much as possible before administering atropine, so as to minimize the risk of ventricular fibrillation. In severe poisonings, it may be necessary to support pulmonary ventilation mechanically for several days. Organophosphate pesticides

## **SECTION 5: Firefighting measures**

### **Suitable extinguishing media**

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide. Organophosphorus pesticides, liquid, flammable, toxic; Organophosphorus pesticides, liquid, toxic

### **Specific hazards arising from the chemical**

Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Heat above 320F may cause decomposition and evolution of highly toxic fumes of phosphorus oxides and chlorides. Hydrolyzes in alkali. Stable in neutral and acid media. Hydrolyzes in alkali. (EPA, 1998)

### **Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media.

## **SECTION 6: Accidental release measures**

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

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### **Environmental precautions**

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### **Methods and materials for containment and cleaning up**

Environmental considerations: Air spill: Apply water spray or mist to knock down vapors. Organophosphorus pesticides, liquid, flammable, toxic; Organophosphorus pesticides, liquid, toxic; Organophosphorus pesticides, solid, toxic

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Store in an area without drain or sewer access. Well closed. Keep in a well-ventilated room. Separated from bases and food and feedstuffs. You should store this material under ambient temperatures.

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **Biological limit values**

no data available

### **Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## Individual protection measures, such as personal protective equipment (PPE)

### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

### Skin protection

Protective gloves. Protective clothing.

### Respiratory protection

Use ventilation, local exhaust or breathing protection.

### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Phosphamidon is a pale yellow oily liquid with a faint odor. Used as an insecticide for citrus, cotton, and deciduous fruit and nuts. and as an acaricide. (EPA, 1998)
Colour:	Pale-yellow liquid
Odour:	FAINT ODOR
Melting point/freezing point:	-45°C
Boiling point or initial boiling point and boiling range:	160-162
Flammability:	Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	169.1°C

Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	DENSITY: 1.22 @ 20 DEG C/4 DEG C; VISCOSITY: 70 CENTIPOISES @ 25 DEG C /TECHNICAL PRODUCT/
Solubility:	greater than or equal to 100 mg/mL at 72° F (NTP, 1992)
Partition coefficient n-octanol/water:	0.8
Vapour pressure:	3E-05mmHg at 25°C
Density and/or relative density:	1.21
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Decomposes on heating and on burning. This produces highly toxic fumes including phosphorus oxides, hydrogen chloride and nitrogen oxides. Reacts with bases (hydrolysis). Attacks metals such as iron, tin and aluminium.

### Chemical stability

Isomeric mixt stable in neutral & acid media; half-life @ 23 deg c= 13.8 days @ ph 7, 2.2 days @ ph 10

### Possibility of hazardous reactions

PHOSPHAMIDON is corrosive to iron, tin and aluminum. Incompatible with alkaline preparations and should not be mixed with copper oxychloride, captan, folpet or sulfur. (NTP, 1992)

**Conditions to avoid**

no data available

**Incompatible materials**

Reacts with bases (hydrolysis). Attacks metals such as iron, tin and aluminium.

**Hazardous decomposition products**

When heated to decomposition it emits toxic fumes of /phosphorous and nitric oxides/.

**SECTION 11: Toxicological information****Acute toxicity**

Oral: LD50 Rat oral 17.4 mg/kg

Inhalation: LC50 Rat inhalation 135 mg/cu m/4 hr (whole body exposure)

Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

Cancer Classification: Group C Possible Human Carcinogen



### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance is irritating to the eyes. The substance may cause effects on the nervous system. This may result in convulsions, respiratory depression and death. Exposure at high levels could cause death. Cholinesterase inhibition. The effects may be delayed. Medical observation is indicated.

### **STOT-repeated exposure**

Cholinesterase inhibition. Cumulative effects are possible. See Acute Hazards/Symptoms.

### **Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 Pimephales promelas (fathead minnow) 100 mg/L/96 hr at 18 deg C, wt 1.0 g (95% confidence limit 91-110 mg/L). Static bioassay without aeration, pH 7.2-7.5, water hardness 40-50 mg/l as calcium carbonate and alkalinity of 30-35 mg/L. /Technical material, 80%

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

AEROBIC: When applied at 5 ppm, the half-lives of phosphamidon in loam, loamy sand, and sand was approximately 6, 3, and <3 days, respectively(1,2). At an application rate of 1 ppm, the half-life in loam and silt was three to four weeks(1,2). No data on sterile controls were presented, and the pH of the soils studied were not reported.

### **Bioaccumulative potential**

BCFs of <1 were measured for phosphamidon in zebrafish (Brachydanio rerio) using OECD test guideline 305 in a continuous flow-

through system operated for 168 hrs with test concns of 995.4 and 198.3 ug/l(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC). Bioconcentration of phosphamidon is unlikely due to its high water solubility(1), very low lipophilicity(1) and very rapid depuration(1,3).

#### **Mobility in soil**

The leaching behavior of phosphamidon in sand, loamy sand, loam, and silt soil in a 15 cm column was studied after 150 cm of rain applied(2). All the added phosphamidon leached through the sand and sandy loam soil, while most of the residue was in the lower third of the column(2). With the silt soil, residues were rather evenly distributed throughout the column and in the leachate, although the greatest fraction of residue was in the upper third of the column. In contrast with the good total recoveries in the other cases, recovery with the silt column was only 39%(2). According to a soil thin layer chromatography study with four soils, phosphamidon was very mobile (retardation factor (Rf) 0.91-0.92) in a silt loam (0.83% organic matter, pH 7.9), silt loam (0.72% organic matter, pH 6.6), and a fine sandy loam (0.52% organic matter, pH 8.8)(1). It was less mobile (Rf = 0.66) in a sandy loam (0.69% organic matter, pH 10.5)(1).

#### **Other adverse effects**

no data available

### **SECTION 13: Disposal considerations**

#### **Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

### **SECTION 14: Transport information**

#### **UN Number**

ADR/RID: UN3018 (For reference only, please check.)

IMDG: UN3018 (For reference only, please check.)

IATA: UN3018 (For reference only, please check.)

#### **UN Proper Shipping Name**

ADR/RID: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (For reference only, please check.)

IMDG: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (For reference only, please check.)

IATA: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (For reference only, please check.)

#### **Transport hazard class(es)**

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

#### **Packing group, if applicable**

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

#### **Environmental hazards**

ADR/RID: Yes

IMDG: Yes

IATA: Yes

#### **Special precautions for user**

no data available

#### **Transport in bulk according to IMO instruments**

no data available

### **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Not Listed.

**(PICCS)**

Not Listed.

**Vietnam National Chemical Inventory**

Not Listed.

**IECSC)**

Not Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

**SECTION 16: Other information**

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Depending on the degree of exposure, periodic medical examination is suggested. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Commercial product is a mixture of isomers. Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any