

## SAFETY DATA SHEET

Version 8.4  
Revision Date 10/01/2023  
Print Date 11/24/2023**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Phosphorus, white

Product Number : 302554  
Brand : Aldrich  
CAS-No. : 12185-10-3**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Quimica S de RL de CV  
Parque Industrial Toluca 2000  
Calle 6 Norte No. 107  
50200 TOLUCA  
MEXICOTelephone : +52 (0)1 800 007 5300  
Fax : +52 (0)1 800 712 9920**1.4 Emergency telephone**Emergency Phone # : 800-00-214-00 (SETIQ)  
800-681-9531 (CHEMTREC)  
(55) 55-59-15-88**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Pyrophoric solids (Category 1), H250  
Acute toxicity, Oral (Category 2), H300  
Acute toxicity, Inhalation (Category 2), H330  
Skin corrosion (Category 1A), H314  
Serious eye damage (Category 1), H318  
Short-term (acute) aquatic hazard (Category 1), H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal Word

Danger

Hazard statement(s)

H250

Catches fire spontaneously if exposed to air.

H300 + H330

Fatal if swallowed or if inhaled.

H314

Causes severe skin burns and eye damage.

H400

Very toxic to aquatic life.

Precautionary statement(s)

P210

Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P222

Do not allow contact with air.

P260

Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264

Wash skin thoroughly after handling.

P270

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

P271

Use only outdoors or in a well-ventilated area.

P273

Avoid release to the environment.

P280

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

P284

Wear respiratory protection.

P301 + P310 + P330

IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 +

P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P335 + P334

Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.

P363

Wash contaminated clothing before reuse.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P391

Collect spillage.

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

P422

Store contents under inert gas.

P501

Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Molecular weight : 123.89 g/mol

CAS-No. : 12185-10-3

Aldrich - 302554

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Component	Classification	Concentration
<b>tetraphosphorus, white phosphorus</b>		
	Pyr. Sol. 1; Acute Tox. 2; Skin Corr. 1A; Eye Dam. 1; Aquatic Acute 1; H250, H300, H330, H314, H318, H400	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder Dry sand

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Nature of decomposition products not known.  
Not combustible.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 6: Accidental release measures

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

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

#### Advice on protection against fire and explosion

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

#### Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. For precautions see section 2.2.

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

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place.

#### Storage class

Storage class (TRGS 510): 4.2: Pyrophoric and self-heating hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
tetraphosphorus, white phosphorus	12185-10-3	TWA	0.1 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Protective gloves against thermal risks

##### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |   |
|---|---|
| a) Appearance                                   | Form: solid                                   |
| b) Odor   | No data available                             |
| c) Odor Threshold                               | No data available                             |
| d) pH   | No data available                             |
| e) Melting point/freezing point                 | Melting point: 44.77 °C (112.59 °F)           |
| f) Initial boiling point and boiling range      | 280 °C 536 °F                                 |
| g) Flash point                                  | No data available                             |
| h) Evaporation rate                             | No data available                             |
| i) Flammability (solid, gas)                    | The product is not flammable.                 |
| j) Upper/lower flammability or explosive limits | No data available                             |
| k) Vapor pressure                               | ca.1.3 hPa at 77 °C (171 °F)                  |
| l) Vapor density                                | No data available                             |
| m) Density                                      | 1.831 g/cm <sup>3</sup>                       |
| Relative density                                | No data available                             |
| n) Water solubility                             | insoluble                                     |
| o) Partition coefficient: n-octanol/water       | No data available                             |
| p) Autoignition temperature                     | Catches fire spontaneously if exposed to air. |
| q) Decomposition temperature                    | No data available                             |
| r) Viscosity                                    | No data available                             |
| s) Explosive properties                         | Not classified as explosive.                  |
| t) Oxidizing properties                         | none  |

### 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

Reacts violently with water.

## 10.4 Conditions to avoid

No data available

## 10.5 Incompatible materials

Strong oxidizing agents

## 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LDLo Oral - Human - 1.4 mg/kg

Remarks: (RTECS)

Inhalation: Corrosive to respiratory system.

Acute toxicity estimate Inhalation - 0.051 mg/l - dust/mist

(Expert judgment)

Dermal: No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information****12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

Further information on ecology

Discharge into the environment must be avoided.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

**Contaminated packaging**

Dispose of as unused product.



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## SECTION 14: Transport information

### DOT (US)

UN number: 1381 Class: 4.2 (6.1) Packing group: I  
Proper shipping name: Phosphorus, yellow, under water  
Reportable Quantity (RQ):  
Marine pollutant: yes Poison Inhalation Hazard: No

### IMDG

UN number: 1381 Class: 4.2 (6.1) Packing group: I EMS-No: F-A, S-J  
Proper shipping name: PHOSPHORUS, YELLOW, UNDER WATER  
Marine pollutant : yes  
Marine pollutant : yes

### IATA

UN number: 1381 Class: 4.2 (6.1)  
Proper shipping name: Phosphorus, yellow, under water  
IATA Passenger: Not permitted for transport  
IATA Cargo: Not permitted for transport

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## SECTION 15: Regulatory information

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

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## SECTION 16: Other information

### Further information

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