

# SAFETY DATA SHEET

Version 8.9  
Revision Date 03/08/2024  
Print Date 03/10/2024

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

### 1.1 Product identifiers

Product name : di-Phosphorus pentoxide extra pure

Product Number : 1.00540  
Catalogue No. : 100540  
Brand : Millipore  
Index-No. : 015-010-00-0  
CAS-No. : 1314-56-3

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

Identified uses : Reagent for analysis, Chemical production  
Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

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

Company : EMD Millipore Corporation  
400 Summit Drive  
BURLINGTON MA 01803  
UNITED STATES

Telephone : +1 800-645-5476

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion (Category 1A), H314  
Serious eye damage (Category 1), H318

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

### 2.2 GHS Label elements, including precautionary statements

Millipore - 1.00540

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Pictogram



Signal Word

Danger

Hazard Statements

H314

Causes severe skin burns and eye damage.

Precautionary Statements

P260

Do not breathe dust.

P264

Wash skin thoroughly after handling.

P280

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

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 +

IF IN EYES: Rinse cautiously with water for several minutes.

P310

Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363

Wash contaminated clothing before reuse.

P405

Store locked up.

P501

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

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Reacts violently with water.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula : P4O10  
Molecular weight : 283.89 g/mol  
CAS-No. : 1314-56-3  
EC-No. : 215-236-1  
Index-No. : 015-010-00-0

| Component                      | Classification                        | Concentration |
|--------------------------------|---------------------------------------|---------------|
| <b>di-Phosphorus pentoxide</b> | Skin Corr. 1A; Eye Dam. 1; H314, H318 | <= 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

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

### 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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

Water Foam

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

Oxides of phosphorus

Not combustible.

Fire may cause evolution of:

Oxides of phosphorus

Caution! in contact with water product releases:

Strong acids

May not get in touch with: Water

Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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### SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

#### 6.2 Environmental precautions

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### 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

Keep workplace dry. Do not allow product to come into contact with water.

##### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

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

##### Storage conditions

Tightly closed. Dry.

Never allow product to get in contact with water during storage.

Recommended storage temperature see product label.

##### Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive 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

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### Personal protective equipment

##### Eye/face protection

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

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

##### Body Protection

protective clothing

##### Respiratory protection

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented. required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

## Control of environmental exposure

Do not let product enter drains.

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### SECTION 9: Physical and chemical properties

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

|   |   |
|---|---|
| a) Appearance                                   | Form: solid<br>Color: white                             |
| b) Odor   | odorless  |
| c) Odor Threshold                               | Not applicable  |
| d) pH   | 3.6 at 0.1 g/l  |
| e) Melting point/freezing point                 | Melting point: 420 °C (788 °F) at 4,800 hPa - (ECHA)    |
| f) Initial boiling point and boiling range      | Not applicable  |
| g) Flash point                                  | ( )Not applicable                                       |
| 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                               | < 0.1 hPa at 20 °C (68 °F)<br>1 hPa at 384 °C(723 °F)   |
| l) Vapor density                                | 4.90 - (Air = 1.0)                                      |
| m) Density                                      | 2.29 g/cm <sup>3</sup> at 26.9 °C (80.4 °F)             |
| Relative density                                | No data available                                       |
| n) Water solubility                             | ca.850 g/l at 20 °C (68 °F) - Risk of violent reaction. |
| o) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances                 |
| p) Autoignition temperature                     | No data available                                       |
| q) Decomposition temperature                    | No data available                                       |
| r) Viscosity                                    | No data available                                       |
| s) Explosive properties                         | No data available                                       |
| t) Oxidizing properties                         | none  |

#### 9.2 Other safety information

|                   |                  |
|-------------------|------------------|
| Sublimation point | 362 °C 1,013 hPa |
|-------------------|------------------|

|                        |                          |
|------------------------|--------------------------|
| Bulk density           | ca.700 kg/m <sup>3</sup> |
| Relative vapor density | 4.90 - (Air = 1.0)       |

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## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

Reacts violently with water.

### **10.2 Chemical stability**

sensitive to moisture

### **10.3 Possibility of hazardous reactions**

Risk of explosion with:

hydrogen peroxide

perchloric acid

Alkaline earth metals

Risk of ignition or formation of inflammable gases or vapours with:

combustible substances

Organic Substances

halogen oxides

Violent reactions possible with:

Water

Alcohols

Sulfides

combustible substances

halogen-halogen compounds

halogen oxides

Hydrogen halides

halogens

Alkali metals

alkali salts

peroxi compounds

alkali oxides

Metals

metallic oxides

Ammonia

formic acid

acids

### **10.4 Conditions to avoid**

Moisture.

### **10.5 Incompatible materials**

No data available

### **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

Oral: No data available

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

Remarks: Extremely corrosive and destructive to tissue.

#### Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Risk of corneal clouding.

#### 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

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

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

Toxicity to fish                      static test NOEC - Danio rerio (zebra fish) - 100 mg/l - 96 h  
(OECD Test Guideline 203)

Toxicity to daphnia                      static test NOEC - Daphnia magna (Water flea) - 100 mg/l - 48 h  
and other aquatic                      (OECD Test Guideline 202)  
invertebrates

### 12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 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

Product reacts with water.

Possible decomposition products in case of hydrolysis are:

phosphoric acid

Biological effects:

After hydrolysis acid effect on fish and plankton.

Neutralisation possible in waste water treatment plants.

Depending on the concentration, phosphates may contribute to the eutrophication of water supplies.

Discharge into the environment must be avoided.

May be harmful to aquatic organisms due to the shift of the pH.

Stability in water                      DT50 - < 0.01 min at 25 °C

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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**SECTION 14: Transport information****DOT (US)**

UN number: 1807 Class: 8 Packing group: II  
Proper shipping name: Phosphorus pentoxide  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

**IMDG**

UN number: 1807 Class: 8 Packing group: II EMS-No: F-A, S-B  
Proper shipping name: PHOSPHORUS PENTOXIDE

**IATA**

UN number: 1807 Class: 8 Packing group: II  
Proper shipping name: Phosphorus pentoxide

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**SECTION 15: Regulatory information****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Massachusetts Right To Know Components**

|                         | CAS-No.   | Revision Date |
|-------------------------|-----------|---------------|
| di-Phosphorus pentoxide | 1314-56-3 | 1993-04-24    |

**Pennsylvania Right To Know Components**

|                         | CAS-No.   | Revision Date |
|-------------------------|-----------|---------------|
| di-Phosphorus pentoxide | 1314-56-3 | 1993-04-24    |

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**SECTION 16: Other information****Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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