

**Phosphotungstic acid.xH<sub>2</sub>O a.r.**

Revision: 27.01.2026

Product code: AC12.00401

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**Phosphotungstic acid.xH<sub>2</sub>O a.r.

CAS No: 12501-23-4

EC No: 215-682-7

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

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet****Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda

Street: Rua de Júlio Dinis 676 7º

Place: N-4050-320 Porto

Telephone: +351 226002917

E-mail: info@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Internet: www.analytichem.com

Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Belgium NV

Street: Industriezone "De Arend" 2

Place: B-8210 Zedelgem

Telephone: +32 50 28 83 20

E-mail: info.be@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Responsible Department: AnalytiChem:

EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20

EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200

EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848

UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500

USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378

Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701

Australia: ORE Research &amp; Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

+44 20 3807 3798 (CHEMTREC)

**1.4. Emergency telephone number:****Further Information**

A registration number is not available for this substance as the substance or its use are exempted from

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registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 4; H302

Skin Corr. 1C; H314

Eye Dam. 1; H318

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008****Signal word:** Danger**Pictograms:****Hazard statements**

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

H411

Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P260

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

P280

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

P303+P361+P353

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

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER/doctor.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients****3.1. Substances**Sum formula: H<sub>3</sub>O<sub>40</sub>PW<sub>12</sub> \* x H<sub>2</sub>O

Molecular weight: 2880.17 (wf) g/mol

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
12501-23-4	Phosphotungstic acid			100 %
	215-682-7			
	Acute Tox. 4, Skin Corr. 1C, Eye Dam. 1, Aquatic Chronic 2; H302 H314 H318 H411			

Full text of H and EUH statements: see section 16.

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**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
12501-23-4	215-682-7	Phosphortungstic acid	100 %
		oral: LD50 = > 300 - < 2000 mg/kg	

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

Self-protection of the first aider

**After inhalation**

Provide fresh air.

Call a physician immediately.

**After contact with skin**

Wash immediately with: Water

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

Call a physician immediately.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

**After ingestion**

Rinse mouth immediately and drink plenty of water.

Do not allow a neutralisation agent to be drunk. Do NOT induce vomiting.

Call a physician immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

Skin corrosion/irritation

Respiratory complaints

Cough

Dyspnoea

Risk of serious damage to eyes.

**4.3. Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Non-flammable.

Hazardous combustion products

In case of fire may be liberated: Phosphorus oxides

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**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.  
Avoid contact with skin, eyes and clothes.

**Additional information**

Suppress gases/vapours/mists with water spray jet.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Consult an expert  
Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.  
Prevent spread over a wide area (e.g. by containment or oil barriers).  
Collect in closed and suitable containers for disposal.  
Take up carefully when dry. Take up dust-free and set down dust-free.

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.  
When using do not eat, drink, smoke, sniff. Use personal protection equipment.  
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.  
Do not breathe dust. Avoid dust formation.  
Use extractor hood (laboratory).

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

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**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Further information on handling**

Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Take off immediately all contaminated clothing and wash it before reuse.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed.  
Provide adequate ventilation as well as local exhaust at critical locations.

**Hints on joint storage**

Take national regulations into account.

**Further information on storage conditions**

Store in a dry place.  
storage temperature +2°C - +8°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

Do not breathe dust. Avoid dust formation.  
If handled uncovered, arrangements with local exhaust ventilation have to be used.  
Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact

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Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of 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.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	light green
Odour:	odourless
Odour threshold:	No data available
Melting point/freezing point:	107 °C
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	No data available
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Flash point:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	>107 °C
pH-Value (at 20 °C):	1,3 (20 g/l)
Viscosity / kinematic:	No data available
Water solubility:	Soluble in: Water
Solubility in other solvents	
not determined	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	No data available
Relative density:	No data available
Bulk density:	~960 kg/m <sup>3</sup>
Relative vapour density:	No data available
Particle characteristics:	No data available

**9.2. Other information**

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**Information with regard to physical hazard classes**

Explosive properties

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

Not oxidising.

**Other safety characteristics**

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

No data available

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No data available

**10.2. Chemical stability**

Protect against: Radiant heat.

**10.3. Possibility of hazardous reactions**

Base

**10.4. Conditions to avoid**

Heat

Radiant heat.

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

In case of fire may be liberated: Phosphorus oxides

**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes**

Toxicokinetics, metabolism and distribution

No data available

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**Acute toxicity**

Harmful if swallowed.

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Inhalation effect: Damage to the respiratory tract.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
12501-23-4	Phosphotungstic acid				
	oral	LD50 > 300 - < 2000 mg/kg	Rat	Study report (2017)	OECD Guideline 423

**Irritation and corrosivity**

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

Risk of serious damage to eyes.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

No data available

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards****Endocrine disrupting properties**

No data available

**Other information**

Causes poorly healing wounds.

**Further information**

Skin corrosion/irritation

Respiratory complaints

Cough

Dyspnoea

Risk of serious damage to eyes.

**SECTION 12: Ecological information**



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**12.1. Toxicity**

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
12501-23-4	Phosphotungstic acid					
	Acute algae toxicity	ErC50 7,8 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 70,8 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
	Acute bacteria toxicity	EC50 > 1000 mg/l ( )	3 h	activated sludge of a predominantly domestic sewage	REACH Registration Dossier	OECD Guideline 209

**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**

This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.

**Further information**

Discharge into the environment must be avoided.

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not allow to enter into surface water or drains.

Send to a physico-chemical treatment facility under observation of official regulations.

**Contaminated packaging**

Waste codes/waste designations according to EWC/AVV

Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

UN 3260

**14.2. UN proper shipping name:**

CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Phosphotungstic acid)

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

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Hazard label: 8  
 Classification code: C2  
 Special Provisions: 274  
 Limited quantity: 5 kg  
 Excepted quantity: E1  
 Transport category: 3  
 Hazard No: 80  
 Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 3260  
**14.2. UN proper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Phosphortungstic acid)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8  
 Classification code: C2  
 Special Provisions: 274  
 Limited quantity: 5 kg  
 Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 3260  
**14.2. UN proper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Phosphorwolframsäure)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8  
 Special Provisions: 223, 274  
 Limited quantity: 5 kg  
 Excepted quantity: E1  
 EmS: F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 3260  
**14.2. UN proper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Phosphorwolframsäure)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8  
 Special Provisions: A3 A803  
 Limited quantity Passenger: 5 kg  
 Passenger LQ: Y845  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 860  
 IATA-max. quantity - Passenger: 25 kg  
 IATA-packing instructions - Cargo: 864  
 IATA-max. quantity - Cargo: 100 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes  
 Danger releasing substance: Phosphorwolframsäure

**14.6. Special precautions for user**

Warning: strongly corrosive.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**Information according to Directive  
2012/18/EU (SEVESO III):

E2 Hazardous to the Aquatic Environment

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

2 - obviously hazardous to water

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,7,10,12,13.

**Abbreviations and acronyms**

Acute Tox. 4: Acute toxicity, hazard category 4

Skin Corr. 1C: Skin corrosion, sub-category 1C

Eye Dam. 1: Serious eye damage, hazard category 1

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Provide appropriate information, instructions and training to users