

Safety Data Sheet
according to 1907/2006/EC, Article 31

Version number 4

Revision: 11.10.2017

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier:

Trade name: Phosphoric Acid 17-45% (Aqueous Solution)

Synonyms:

Sodium Peroxodisulphate; Hydrogen Phosphate Solution and Water; Disodium Peroxodisulphate; Orthophosphoric Acid and Water

Altus Science Individual Product Reference: A-2805, A-2806, A-3590, A-5975, A-7801

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

Product category: PC21 Laboratory chemicals

Application of the substance / the mixture: Laboratory chemicals

1.3 Details of the supplier of the safety data sheet:

Manufacturer / Importer / Supplier:

Altus Science Limited

Park House

Manor Park Avenue

Manor Park

Runcorn, Cheshire, WA7 1TL

United Kingdom

Telephone: +44 (0) 1928 238 000

Email address: info@altusscience.com

Further information obtainable from: Product safety department.

1.4 Emergency telephone number:

Tel. +44(0) 1928 238 000

This telephone number can be reached during office hours.

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008:



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms: GHS05

Signal word: Danger

Hazard-determining components of labelling:

Phosphoric acid

Hazard statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

P405 Store locked up.

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

2.3 Other hazards:

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

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SECTION 3: Composition/Information on Ingredients

3.2 Chemical characterisation: Mixtures:

Description: Phosphoric Acid 17-45% (Aqueous Solution)

Components:		
CAS: 7664-38-2 EINECS: 231-633-2 Index number: 015-011-00-6 Reg.nr.: 01-2119485924-24	Phosphoric acid ☞ Met. Corr.1, H290; Skin Corr. 1B, H314	17-45%
CAS: 7732-18-5 EINECS: 231-791-2	Water, distilled, conductivity or of similar purity	55-83%

Additional information: For the wording of the listed hazard phrases See section 16.

SECTION 4: First Aid Measures

4.1 Description of first aid measures:

General information: In the event of exposure, show Safety Data Sheet to a Doctor.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Take off contaminated clothing immediately and wash the skin with plenty of water (possibly showering).

Wash with (warm) water and soap.

Seek immediate medical advice.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After ingestion:

Rinse Mouth.

Seek immediate medical advice.

4.2 Most important symptoms and effects, both acute and delayed: Corrosive effects.

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

No further relevant information available.

SECTION 5: Firefighting Measures

5.1 Extinguishing media:

Suitable extinguishing agents:

CO2, Dry chemicals or foam.

Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water

5.2 Special hazards arising from the substance or mixture:

During heating or in case of fire poisonous gases are produced.

Phosphorus oxides

5.3 Advice for firefighters:

Protective equipment:

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

Additional information: Cool endangered tanks with water spray.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Remainder dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
6.4 Reference to other sections:
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling:

In the immediate vicinity of any potential exposure source, eye wash stations and emergency showers should be available.
Avoid inhalation of vapors and contact with eyes, skin and clothing.
Ensure good ventilation/exhaustion at the workplace.
Handle in accordance with good industrial hygiene and safety procedures.

Information about fire and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities:

Storage must comply with the local regulations.
Store in a closed container away from incompatible materials
Store in a well ventilated storage area.

Storage:

Requirements to be met by storerooms and tanks: Store only in the original receptacle.

Information about storage in one common storage facility:

Do not store in areas where food, drink and animal foodstuff are taken.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s): For professional and industrial users only

SECTION 8: Exposure Controls/Personal Protection

Additional information about design of technical facilities: No further data; see section 7.

8.1 Control parameters:

Ingredients with limit values that require monitoring at the workplace:	
7664-38-2 Phosphoric acid	
WEL (Great Britain)	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³
IOELV (EU)	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Provide adequate ventilation.
Keep away from food, drink and animal foodstuff.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Respiratory protection:

In case of insufficient ventilation, use a breathing mask with filter type ABEK
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

Only use chemical-protective gloves with CE-labelling of category III.

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves:

Neoprene gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material:

Not applicable.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)

Eye protection:



Tightly sealed goggles

Body protection: Protective work clothing

Limitation and supervision of exposure into the environment: Prevent spills from reaching surface waters or soil.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

General Information:

Appearance:

Form:	Liquid.
Colour:	Colourless.
Odour:	Odourless.
Odour threshold:	Not determined.

pH-value at 20 °C: < 2

Change in condition

Melting point/Melting range:	-5 °C
Boiling point/Boiling range:	100 °C

Flash point: >100 °C

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Self-igniting: Product is not self-igniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapour pressure at 20 °C: 4 hPa

Density at 20 °C:	1.5 g/cm ³
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.

Solubility in / Miscibility with:

Water: Fully miscible.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

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Solvent content:

Oxidizing properties: Does not contain oxidizing properties.

9.2 Other information: No further relevant information available.

SECTION 10: Stability and Reactivity

10.1 Reactivity: Reacts violently with bases.

10.2 Chemical stability:

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions: No dangerous reactions known.

10.4 Conditions to avoid:

In contact with metals generates hydrogen gas, which together with air can form explosive mixtures.

10.5 Incompatible materials:

Strong bases

Oxidising Agents

10.6 Hazardous decomposition products: Phosphorus compounds

SECTION 11: Toxicological Information

11.1 Information on toxicological effects:

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

LD/LC50 values relevant for classification:

Oral	LD50	3400 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (Rabbit)

7664-38-2 Phosphoric acid

Oral	LD50	1530 mg/kg (Rat)
Dermal	LD50	2740 mg/kg (Rabbit)

Primary irritant effect:

Skin corrosion/irritation:

Causes severe skin burns and eye damage.

Serious eye damage/irritation:

Causes serious eye damage.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

CMR effects (carcinogenic, mutagenic and reprotoxic):

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

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

Reprotoxicity: 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.

SECTION 12: Ecological Information

12.1 Toxicity:

The product components are not classified as dangerous for the environment or the quantities are not relevant. Larger or frequent spills can be dangerous or harmful to the environment.

Aquatic toxicity:

7664-38-2 Phosphoric acid

LC50/96h	3 - 3.5 mg/l (Fish)
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12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

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Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

12.5 Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods:

Recommendation: Disposal must be made in accordance with Hazardous waste regulations.

European waste catalogue:

16 03 03

16 Waste not otherwise specified in the list

16 03 Off-specification batches and unused products

16 03 03 Inorganic waste containing dangerous substances

Depending on the origin and state of waste, other EWC numbers may be applicable too

15 01 10 Packaging containing residues of or contaminated by dangerous substances.

Depending on the origin and state of the waste, other EWC numbers may be applicable too.

Contaminated packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport Information

14.1 UN-Number:

ADR,RID,ADN, IMDG, IATA UN1805

14.2 UN proper shipping name:

ADR/RID/ADN: 1805 PHOSPHORIC ACID, SOLUTION

IMDG: PHOSPHORIC ACID, SOLUTION

IATA: Phosphoric acid solution

14.3 Transport hazard class(es):

ADR/RID/ADN:



Class: 8 (C1) Corrosive substances.

Label: 8

IMDG, IATA



Class: 8 Corrosive substances.

Label: 8

14.4 Packing group:

ADR,RID,ADN, IMDG, IATA III

14.5 Environmental hazards:

Marine pollutant: No

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14.6 Special precautions for user:	Warning: Corrosive substances.
Danger code (Kemler):	80
EMS Number:	F-A,S-B
Segregation groups	Acids
Stowage Category	A
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:	
	Not applicable.
Transport/Additional information:	
ADR/RID/ADN:	
Limited quantities (LQ):	5L
Excepted quantities (EQ):	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
Transport category:	3
Tunnel restriction code:	E
IMDG:	
Limited quantities (LQ):	5L
Excepted quantities (EQ):	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation":	UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Directive 2012/18/EU:

Named dangerous substances - ANNEX I: None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 3

National regulations: Not applicable

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other Information

Relevant phrases:

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Training hints: Provide training on safe handling considering the type of application and exposure scenarios.

Department issuing SDS: Environment protection department.

Abbreviations and acronyms:

ADN: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

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

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised 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 (Division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

EC50: Effective Concentration, 50 percent

IOELVS: Indicative Occupational Exposure Limit Values

mPa.s: milliPascal per second

Met. Corr.1: Corrosive to metals – Category 1

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Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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References:

This information is based on the current available data (suppliers of raw materials, chemistry maps, Annex VI)
See also the internet site: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Revisions were made in sections marked with *.

Disclaimer:

The information believed to be accurate within this document and is intended only as a guide to the appropriate precautionary handling of this substance by a properly trained person using this product. The information relates only to the specific material designated and does not relate to its use in combination with other materials. The user is responsible for determining whether Altus Science products are fit for a particular purpose and suitable to the users method of use or application.

Updated versions will be made available when significant information becomes available. The user shall ensure that they work with the most up to date revision.

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