Altus science

Material Safety Data Sheet

Phosphoric Acid 20% (Aqueous Solution)

Section 1. Identification of Product and Company

1.1 Identification of substance or preparation: Phosphoric Acid, 20%

Synonyms: Hydrogen Phosphate Solution, Orthophosphoric Acid Solution

1.2 Product Application: This MSDS provides Health and Safety information for any Phosphoric Acid 20% component:

Altus Science Part Number	Product Name/Description/Range
(K) = Kit A-7801(K)	Phosphoric Acid – 20% reagent

1.3 Company/Undertaking Identification:

Altus Science Limited
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1.4 Emergency Telephone: +44(0) 1925 606 528

Section 2. Hazards Identification

2.1 Hazard Summary:

Physical hazards: Not classified for physical hazards
Health hazards: Causes burns
Environmental hazards: Not classified for hazards to the environment

2.2 Label elements:

Contains: Phosphoric acid, Water
Supplemental label information: Not applicable

2.3 Other hazards: Not assigned

Section 3. Composition/Information on Ingredients

3.1 Mixtures:

Chemical description: Aqueous solution of inorganic acids

Compound Name	CAS-No.	EC No.	Concentration	CLP Classification - Reg No.
Water	7732-18-5	231-791-2	80%	Not applicable
Phosphoric acid	7664-38-2	231-663-2	20%	Skin Corr. 1B;H314

Section 4. First Aid Measures

4.1 Description of first aid measures:

Skin Contact: Wash immediately with plenty of water. Seek medical attention
Eye Contact: Flush immediately with plenty of running water; continue rinsing for a period of at least 10 minutes. Seek medical attention
Ingestion: If victim is conscious, first rinse mouth with water then immediately give 1-2 glasses of water. Do not induce vomiting. Seek medical attention
Inhalation: Remove to fresh air. Seek medical attention

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: Not available

Section 5. Fire Fighting Measures

5.1 Extinguishing media:

Suitable Extinguishing Media: Carbon dioxide, dry chemicals, foam
Unsuitable Extinguishing Media: Water

5.2 Special hazards arising from the substance or mixture: Oxides of phosphorus evolves in fire

5.3 Advice for fire-fighters:

Special protective equipment for fire-fighters: Self contained breathing apparatus
Special fire-fighting procedures: Protective clothing, protective gloves, helmet

5.4 Further information: Use standard fire-fighting procedures and consider the hazards of other involved materials. Prevent spillage and fire-fighting water from entering in public sewers or the immediate environment

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Wear protective clothing, safety goggles
For emergency responders: Use personal protection recommended in Section 8 of the MSDS

6.2 Environmental precautions: Prevent from entering sewers or the immediate environment.
Accidental release of large quantities into the aquatic environment may harm aquatic organisms

6.3 Methods and materials for containment and clean up:

- Absorb onto inert material and dispose of in accordance with Hazardous waste regulations
- Spills of the product could present a significant slip hazard depending on quantity and surface type
- Contain and recover by physical means
- Clean small spills by diluting with sufficient quantities of water

6.4 Reference to other sections: Please refer to Section 8 for further information

Section 7. Handling and Storage

7.1 Precautions for safe handling: Avoid contact with skin and eyes.
Handle in accordance with good industrial hygiene and safety procedures.
Wash thoroughly immediately after use

7.2 Conditions for safe storage, including any incompatibilities: Reasonable and safe chemical storage.
Store in a closed container in a well ventilated storage area, away from incompatible materials

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

Section 8. Exposure Controls/Personal Protection

8.1 Control parameters

Occupational exposure limits - UK EH40 Workplace Exposure Limits (WEL's):

Components	Type	Value
Phosphoric acid (7664-38-2)	STEL	2mg/m3
	TWA	1mg/m3

8.2 Exposure controls:

Biological Limit Values: No biological exposure limits noted for the ingredient(s)
Recommended monitoring procedures: Not available
Environmental exposure controls: Not applicable
Appropriate engineering controls: Adequate ventilation to maintain air contaminants below exposure limits. Arrange for eye wash possibility

Personal protective equipment:
Eye/face protection: Safety goggles
Skin protection: Neoprene gloves
Body protection: None required
Respiratory protection: In case of insufficient ventilation, use a breathing mask with filter type: P2

Section 9. Physical and Chemical Properties

9.1 Physical and Chemical Properties:

Characteristic		Description
Appearance	***Physical State***	Liquid
	Colour	Colourless
Odour		None
Odour Threshold		Not available
pH (Concentrated product)		< 2
Melting point/freezing point		-5 °C
Initial boiling point and boiling range		100°C
Flash point		>100,00°C Pensky Martens (CC)
Evaporation rate		1 (Ether=1)
Flammability (solid, gas)		Not applicable
Flammable Limit - lower		Not available
Flammable Limit - upper		Not available
Vapour pressure		3mm Hg at 21°C
Vapour density		Not applicable
Relative density		1,5
Solubility		Completely soluble
Partition coefficient (n-Octanol/water)		Not available
Auto-ignition temperature		Not available
Decomposition temperature		Not available
Viscosity		Not available
Explosive properties		Not applicable
Oxidizing properties		Not applicable

9.2 Other safety information: No relevant additional information available

Section 10. Stability and Reactivity

10.1 Reactivity: Not available

10.2 Chemical Stability: Material is stable under normal conditions

10.3 Possibility of hazardous reactions: Not applicable

10.4 Conditions to avoid: May in contact with certain metals, such as Zinc, Magnesium, release hydrogen gas which may form explosive mixtures in air

10.5 Incompatible materials: Avoid contact with strong bases
Avoid contact with strong oxidisers

10.6 Hazardous decomposition products: Oxides of phosphorus evolved in fire

Section 11. Toxicological Information

11.1 Information on toxicological effects:

Product/Component	LD50 Oral	LD50 Dermal
Phosphoric Acid 20% (Mixture)	Rat:>3400mg/kg (Calculated data)	Rabbit:>5000mg/kg (Calculated data)
Phosphoric acid (7664-38-2)	Acute Oral. Rat: 1530mg/kg	Acute Dermal. Rabbit: 2740mg/kg

Acute toxicity: Not classified

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

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Information on likely routes of exposure:
Ingestion: May cause burns in mouth, throat and/or stomach
Inhalation: May cause irritation to respiratory organs
Skin contact: Causes burns
Eye contact: Causes burns

Signs and symptoms of Exposure: Not available

Mixture versus substance information: None known

Additional information: Not available

Section 12. Ecological Information

12.1 Toxicity: No toxicity data noted for the ingredient(s)

12.2 Persistence and degradability: No data available

12.3 Bio accumulative potential: Not available

12.4 Mobility in soil: Not available

12.5 Results of PBT and vPvB assessment: Not a PBT or vPvB substance or mixture

12.6 Other adverse effects: Not available

12.7 Summary: The product is not classified as dangerous for the environment. The evaluation of the environmental hazards is based on the concentration limits set out in directive 1999/45/EC

Section 13. Disposal Considerations

13.1 Waste treatment methods:

Product - According to Controlled Waste Regulations:
European Waste Code (EWC) recommendation: 16 03 03
16 Wastes not otherwise specified in the list
16 03 Off-specification batches and unused products
16 03 03 Inorganic wastes
Depending on the origin and state of waster, other EWC numbers may be applicable too

Contaminated packaging - According to Controlled Waste Regulations:
European Waste Code (EWC) recommendation: 15 01 10
15 Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01 Packaging (including separately collected municipal packaging waste)
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

Section 14. Transport Information

14.1 UN Number:
ADR/RID: 1805 **IMDG:** 1805 **ADN:** 1805 **IATA:** 1805

14.2 UN proper shipping name: Phosphoric Acid, Solution

14.3 Transport Hazard Class(es): 8

14.4 Packaging group:
ADR/RID: III **IMDG:** III **ADN:** III **IATA:** III

14.5 Environmental hazards: No

14.6 Special precautions for user: Not available

Section 15. Regulatory Information

15.1 Safety, health and environment regulations/legislation specific for the substance or mixture: No data available

15.2 Chemical safety assessment: No data available

15.3 Other regulations: This product does not need to be labelled in accordance with EC directives or respective national laws.

Section 16. Other Information

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 present state of knowledge and is applicable to the product with regard to appropriate safety precautions. Altus Science Ltd shall not be held liable for any damage resulting from handling or from contact with the above product. Please refer to Terms and Conditions for further information of sale.

Abbreviations

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

RID - International Rule for Transport of Dangerous Substances by Railway

ADN - International Carriage of Dangerous Goods by Inland Navigation

IATA - International Air transport Association

IMDG - International Maritime Dangerous Goods Code

WEL - Workplace Exposure Limit

TWA - Time weighted Average

STEL - Short-term Exposure Limit

vPvB - Very persistent, very Bio accumulative

H314 – Causes severe skin burns and eye damage