HURST SCIENTIFIC

Safety Data Sheet
Phosphoric Acid 25-85%

SECTION 1: Identification

GHS Product identifier

Product name	Phosphoric Acid 25-85%
Product number	OPA25-85, OP25-500M, 1L, 2.5L, 5K, 10L
Brand	HurstChem

Other means of identification

Orthophosphoric Acid

Recommended use of the chemical and restrictions on use

Laboratory Reagent

Supplier's details

Name	Hurst Scientific
Address	2/36 Hensbrook Loop 6112 Forrestdale WA Australia
Telephone	1300 778 068
email	sales@hurstscientific.com.au

Emergency phone number

Australian Poisons Information Centre 131 126
Australian Emergency Services 000

SECTION 2: Hazard identification

General hazard statement

Classified as a Hazardous substance according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 8

- Corrosive to metals, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Acute toxicity, inhalation, Cat. 4

GHS label elements, including precautionary statements

Pictograms

1. Corrosion; 2. Exclamation mark

Signal word	**Danger**

Hazard statement(s)

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled

Precautionary statement(s)

P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing 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 affected areas with water [or shower].
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390	Absorb spillage to prevent material-damage.
P405	Store locked up.
P501	Dispose of contents/container to …

Other hazards which do not result in classification

Classified as a Dangerous goods according to the ADG Code for the Transport of Dangerous Goods by Road and Rail (7th Edition).

SECTION 3: Composition/information on ingredients

Mixtures

Hazardous components

1. Phosphoric acid

Concentration	25 - 85 %
CAS no.	7664-38-2

2. Water

Concentration	Balance
CAS no.	7732-18-5

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	DO NOT induce vomiting. Wash mouth out with copious amounts of water and seek immediate medical attention.

Personal protective equipment for first-aid responders
Eye wash station, safety shower and First Aid kit.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Use extinguishing media most appropriate for the surrounding fire. No limitations to the type of extinguishing media.
Small fire: Use dry chemical, CO_2 or water spray.
Large fire: Use water spray, fog or foam - Do NOT use water jets.

Specific hazards arising from the chemical
Toxic gases may evolve.

Special protective actions for fire-fighters
Wear SCBA (Self-Contained Breathing Apparatus) and full protective equipment.

Further information
Hazchem code 2R

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear appropriate protective clothing. Ensure adequate ventilation. If possible, contain the spill. Evacuate all unnecessary personnel.

Methods and materials for containment and cleaning up
Absorb with vermiculite or similar and place into a suitably labelled container. Dispose of waste according to local authority guidelines. Wash the affected area with a large volume of water. Do not contaminate drains or waterways.

SECTION 7: Handling and storage

Precautions for safe handling
This product is a corrosive liquid. Use only in an adequately ventilated area. Avoid breathing in mists or vapours. Wear appropriate protective clothing to avoid any exposure and practice good personal hygiene.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated area away from incompatibles. Keep containers tightly closed.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 7664-38-2
Phosphoric acid
AU/SWA (Australia): 3 mg/m3 STEL inhalation; 1 mg/m3 TWA inhalation

Appropriate engineering controls
Ensure adequate ventilation to maintain airborne concentrations below national exposure standards.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety glasses or goggles.

Skin protection
Chemical-resistant gloves and laboratory coat.

Body protection
Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection
Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Syrupy liquid
Color	Clear
Odor	No distinct odour
Melting point/freezing point	21°C (85% phosphoric acid)
Boiling point or initial boiling point and boiling range	158°C (85% phosphoric acid)
Flammability	Non-flammable
pH	1 (100 g/l, H2O, 20 °C)
Solubility	Water soluble
Vapor pressure	2.2 hPa (85% phosphoric acid)
Density and/or relative density	1.685 (85% phosphoric acid)
Relative vapor density	3.4 (85% phosphoric acid)

SECTION 10: Stability and reactivity

Reactivity
Non-reactive under recommended conditions for use and storage.

Chemical stability
Stable under recommended conditions for use and storage.

Possibility of hazardous reactions
Polymerisation will not occur. Will react with incompatibles.

Conditions to avoid
Direct sunlight and temperature extremes.

Incompatible materials
Aluminium, Zinc, Tin, Acids and Ammonia salts.

Phosphoric acid : Strong bases, Powdered metals

Hazardous decomposition products
Toxic gases may evolve.

Phosphoric acid : Hazardous decomposition products formed under fire conditions. - Oxides of phosphorus
Other decomposition products - No data available

Water: In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute Toxicity - Oral LD50 (rat): 1,530 mg/kg (anhydrous) (IUCLID)
Acute Toxicity - LD50 (rabbit): 2,740 mg/kg (anhydrous)(IUCLID)

Skin corrosion/irritation
Corrosive. Concentrated acid solutions can cause redness, pain, itching, scaling, occasional blistering, and severe skin burns.

Serious eye damage/irritation
Mists may cause eye irritation. Symptoms include of redness, pain, tearing, eyelid spasms, blurred vision, chemical conjunctivitis, burns and permanent eye damage. risk of blindness!

Respiratory or skin sensitization
Burns to the mouth, throat and stomach. Symptoms include sour acrid taste, coughing, difficult breathing and swallowing, conjunctivitis, severe gastrointestinal irritation, nausea, vomiting, bloody diarrhoea, severe abdominal pains, extreme thirst, convulsions.

Germ cell mutagenicity
No evidence of mutagenic effects.

Carcinogenicity
No evidence of carcinogenic properties.

Reproductive toxicity
No classification available

Specific target organ toxicity (STOT) - single exposure
No classification available

Specific target organ toxicity (STOT) - repeated exposure
No classification available

Aspiration hazard
No classification available

Additional information
Dermatitis may occur from prolonged or repeated skin contact. Prolonged or over exposure to phosphoric acid can increase fluid levels in the lungs (pulmonary oedema). May cause clammy skin and dermantitis, weak and rapid pulse, shallow respiration, very little urine, bronchitis, shortness of breath.
Severe exposure to phosphoric acid can lead to shock, circulatory collapse and death.

SECTION 12: Ecological information

Toxicity
Not available.

Persistence and degradability
Not available.

Bioaccumulative potential
Not expected to bio-accumulate.

Mobility in soil
Not available.

Other adverse effects
Environmental fate (exposure) Do not contaminate drains and waterways.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of in accordance with local authority guidelines.

Packaging disposal
Dispose of in accordance with local authority guidelines.

Other disposal recommendations
Special precautions Nil.

SECTION 14: Transport information

UN Number	1805
Hazchem emergency action code (EAC)	2R
UN Proper Shipping Name	PHOSPHORIC ACID
Transport hazard class(es)	8
Packing group	III

Special precautions for user
Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:
Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity

SECTION 15: Regulatory information

Chemical Safety Assessment
Poisons Schedule S6

SECTION 16: Other information

Further information/disclaimer

This SDS is prepared in accordance with the Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (2011). The information contained within is believed to be accurate at the date of preparation/review. Hurst Scientific makes no claims of the accuracy or completeness of the information and excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. It is recommended the user make their own determinations as to the suitability of the information provided to the application in which the product is to be used.

Preparation information

References

1. Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (2011).
2. Safe Work Australia, National Code of Practice for the Labelling of Workplace Hazardous Chemicals (2015).
3. Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants (2013)
4. National Transport Commission Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code); Canprint: Canberra (2007), Volume 1, 7th Edition.
5. Standards Australia, Dangerous Goods Initial Emergency Response Guide: Australian Handbook (SAA/SNZ HB76); Homebush (2004).