

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Phosphoric Acid 85% Solution
CAS number	7664-38-2
Synonyms	o-Phosphoric acid; Phosphorsaeure; White phosphoric acid

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

Identified uses	Laboratory chemicals.
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Corrosive to Metals	Category 1
Acute Oral Toxicity	Category 4
Skin Corrosion	Category 1B
Serious Eye Damage	Category 1

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements

Prevention: Keep only in original container. Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/ doctor if you feel unwell.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Spills: Absorb spillage to prevent material damage.

Storage: Store locked up. Store in corrosive resistant container with a resistant inner liner.

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

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

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Phosphoric acid	Phosphorsaeure; orthophosphoric acid	7664-38-2	80-90%
Water	Aqua; H2O	7732-18-5	10-20%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. Call in physician.
In case of skin contact	Wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.
In case of eye contact	Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	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.

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	For this substance/mixture no limitations of extinguishing agents are given.

5.2 Specific hazards arising from the substance or mixture

Oxides of phosphorus. Not combustible. Ambient fire may liberate hazardous vapours. Fire may cause evolution of: Oxides of phosphorus.

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

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapors, aerosols. 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. Take up with liquid-absorbent and neutralising material. Dispose of properly. Clean up affected area.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements. For disposal see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Observe label precautions (see Section 2.2).

Hygiene measures

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

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

No metal or light-weight-metal containers. Tightly closed.

Incompatibilities

Avoid sources of heat, radiation, static electricity, and contact with food. For additional information, see Section 10.5.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Phosphoric acid	TWA	1 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Phosphoric acid	TWA	1 mg/m ³
	STEL	3 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Phosphoric acid	TWA	1 mg/m ³
	STEL	3 mg/m ³

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Individual protection measures, such as personal protective equipment. As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection) consult the information leaflet provided by the manufacturer. All information contained herein is a recommendation, the application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 19 CFR 1910.132.

Personal protective equipment

Eye/face protection

Safety glasses with side shields or goggles. Face shield. Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR).

Skin protection

Chemical protective gloves (Material: Linear low-density polyethylene (LLDPE), Breakthrough time: > 480 min, Thickness: 0.062 mm). The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR).

Body Protection

Disposable clothing for protection against chemical risks. For professional use only. Clean periodically according to the manufacturer's instructions.

Respiratory protection

Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed.

Control of environmental exposure

Do not let product enter drains.

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

Physical State	Liquid
Appearance	Clear, colorless
Odor	Odorless
Odor Threshold	No information available
pH	< 0.5 at 100 g/l at 20 °C (68 °F)
Melting Point/Range	ca.21 °C (ca.70 °F)
Boiling Point/Range	ca.135 °C ca.275 °F
Evaporation Rate	ca.158 °C ca.316 °F at 1,013 hPa
Flammability (solid)	Not applicable
Flammability or explosive limit	No data available
Upper	No data available
Lower	No data available
Vapor Pressure	2 hPa at 20 °C(68 °F)
Vapor Density	No information available
Density	1.71 g/cm ³ at 20 °C (68 °F)
Solubility	Soluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	30.5 mm ² /s at 20 °C (68 °F)
Molecular Formula	H ₃ PO ₄

Molecular Weight	98.00 g/mol
VOC Content(%)	No information available
Oxidizing properties	None

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazardous reactions are expected because the product is stable under recommended storage conditions.

10.2 Chemical stability

Chemically stable under the indicated conditions of storage, handling, and use.

10.3 Possibility of hazardous reactions

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid

Shock and friction, contact with air, increase in temperature, sunlight, humidity.

10.5 Incompatible materials

Acids, water, oxidising materials, combustible materials, avoid alkalis, strong bases, Aluminum, iron/iron-containing compounds, mild steel.

10.6 Hazardous decomposition products

In the event of fire: see Section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phosphoric acid	1250 mg/kg (mouse)	-	-

Skin corrosion/irritation

Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns.

Serious eye damage/eye irritation

Produces serious eye damage after contact.

Respiratory or skin sensitization

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitizing effects.

Germ cell mutagenicity

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Phosphoric acid	7664-38-2	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect.

Specific target organ toxicity - repeated exposure

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Phosphoric acid	EC50	Daphnia magna	> 100 mg/l, 48h static
	ErC50	Desmodesmus subspicatus	> 100 mg/l, 72h static
	NOEC	Desmodesmus subspicatus	100 mg/l, 72h static

12.2 Persistence and degradability

No information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

Harmful effect due to pH shift. Caustic even in diluted form. Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no	UN1805
Proper Shipping Name	PHOSPHORIC ACID, SOLUTION
Hazard Class	8
Packing Group	III

IMDG

UN-no	UN1805
Proper Shipping Name	PHOSPHORIC ACID, SOLUTION
Hazard Class	8
Packing Group	III

IATA

UN-no	UN1805
Proper Shipping Name	PHOSPHORIC ACID, SOLUTION
Hazard Class	8
Packing Group	III

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Phosphoric acid (CAS #7664-38-2), RQ: 5000 lb.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Listed, Phosphoric acid (CAS #7664-38-2).

US state regulations

US. Massachusetts RTK - Substance List

Listed, Phosphoric acid (CAS #7664-38-2).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Phosphoric acid (CAS #7664-38-2).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Phosphoric acid (CAS #7664-38-2).

California Proposition 65

Not listed.

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.