

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)

SAFETY DATA SHEET

Phosphoric Acid 85%

This SDS is valid for all grades and catalog #s

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: Orthophosphoric acid; white phosphoric acid
Other means of identification: CAS No. 7664-38-2
EINECS No. 231-633-2

Recommended use of the chemical and restrictions on use:

Supplier Details:

Greenfield Global USA, Inc.
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213

Greenfield Global USA, Inc.
1101 Isaac Shelby Drive, Shelbyville,
KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

Emergency Overview:

WARNING! CORROSIVE. CAUSES SEVERE IRRITATION AND BURNS TO EVERY AREA OF CONTACT.
HARMFUL IF SWALLOWED OR INHALED.

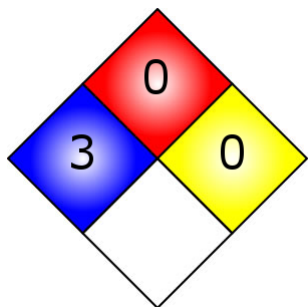
OSHA Hazards:

Corrosive, Harmful by ingestion, Highly toxic by inhalation, Target organ effect

Target Organs:

Blood, Bone marrow, Liver

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GHS label elements, including precautionary statements



Signal Word:
DANGER!

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statement(s)

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves and eye and face protection.
P310	Immediately call a POISON CENTER or doctor/ physician.
P264	Wash hands thoroughly after handling.
P501	Dispose of contents and container to an approved waste disposal plant.
P405	Store locked up.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P321	Specific treatment (see supplemental first aid instructions on this label).
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P363	Wash contaminated clothing before reuse.

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P406 Store in corrosive resistant container with a resistant inner lining. **1.703.527.3987 (INT)**
P234 Keep only in original container.
P390 Absorb spillage to prevent material damage.

GHS Classification(s)

Skin corrosion (Category 1B)
Metal corrosion (Category 1)
Eye irritation (Category 2)
Skin irritation (Category 2)

Other hazards which do not result in classification:

Potential Health Effects:

Organ	Description
Eyes	Corrosive. May cause redness, pain, blurred vision, eye burns, and permanent eye damage.
Ingestion	Corrosive. May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. Severe exposures can lead to shock, circulatory collapse, and death.
Inhalation	Inhalation is not an expected hazard unless misted or heated to high temperatures. Mist or vapor inhalation can cause irritation to the nose, throat, and upper respiratory tract. Severe exposures can lead to a chemical pneumonitis.
Skin	Corrosive. May cause redness, pain, and severe skin burns.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity: Phosphoric Acid
Common name / Synonym: Orthophosphoric acid; white phosphoric acid
CAS number: 7664-38-2
EINECS number: 231-633-2
ICSC number: 1008
RTECS #: TB6300000
UN #: UN1805
EC #: 015-011-00-6

% Volume	Material	CAS
85	Phosphoric Acid	7664-38-2
15	Water	7732-18-5

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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Skin

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Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing/shoes.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Keep rinsing while in transport to hospital.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Phosphorus oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Toxic phosphorus oxide and phosphine fumes may form during thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Do not inhale vapors/mist/gas/dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished.

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7. HANDLING AND STORAGE

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Take normal fire prevention measures.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component	Source	Type	Value	Note
Phosphoric Acid	US (ACGIH)	TWA	1 mg/m ³	ACGIH Threshold Limit Value
Phosphoric Acid	US (OSHA)	TWA	1 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants
Phosphoric Acid	US (ACGIH)	STEL	3 mg/m ³	ACGIH Threshold Limit Value
Phosphoric Acid	US (OSHA)	STEL	3 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

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Hygiene measures:

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Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Liquid. Clear.
Freezing point	42 °C (108 °F)
Initial boiling point and boiling range	213 °C (415 °F)
Vapor pressure	0.04 hPa (0.03 mmHg) at 20 °C (68 °F)
Vapor Density	3.4
Relative Density	1.685 g/cm ³ at 25 °C (77 °F)
Solubility(ies)	completely miscible in water
Formula (PHOSPHORIC ACID)	H ₃ O ₄ P
Molecular Weight (PHOSPHORIC ACID)	98.00 g/mol

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	No data available
Conditions to avoid (e.g., static discharge, shock or vibration)	No data available
Incompatible materials	Strong bases, Powdered metals
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Phosphorus oxides

11. TOXICOLOGICAL INFORMATION

- Phosphoric Acid 7664-38-2

Product Summary:

No data available for the mutagenic, teratogenic, or reproductive effects of the product.

Acute Toxicity:

No data available			
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Irritation:

No data available

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Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or

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confirmed human carcinogen by IARC. **+1.703.527.3887 (INT)**

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Other Hazards

Organ	Description
Eyes	Corrosive. May cause redness, pain, blurred vision, eye burns, and permanent eye damage.
Ingestion	Corrosive. May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. Severe exposures can lead to shock, circulatory collapse, and death.
Inhalation	Inhalation is not an expected hazard unless misted or heated to high temperatures. Mist or vapor inhalation can cause irritation to the nose, throat, and upper respiratory tract. Severe exposures can lead to a chemical pneumonitis.
Skin	Corrosive. May cause redness, pain, and severe skin burns.

12. ECOLOGICAL INFORMATION

- Phosphoric Acid 7664-38-2

Ecotoxicity (aquatic and terrestrial, where available):

Ecotoxicity

No data available

Persistence and degradability:

No data available

Bioaccumulative potential:

No data available

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA

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 approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contents of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number	UN1805
UN proper shipping name	Phosphoric acid solution
Transport hazard class(es)	8
Packing group (if applicable)	III

Reportable Quantity

5,000 lbs.

IMDG

UN-Number: UN1805 Class: 8 Packing Group: III

EMS-No: F-A, S-B

Proper shipping name: PHOSPHORIC ACID SOLUTION

Marine pollutant: No

IATA

UN-Number: UN1805 Class: 8 Packing Group: III

Proper shipping name: Phosphoric acid solution

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards

Corrosive, Harmful by ingestion, Highly toxic by inhalation, Target organ effect

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

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No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, **203.527.3887 (INT)**

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Chronic Health Hazard

CERCLA

Phosphoric Acid CAS-No. 7664-38-2, RQ: 5,000 lbs.

Massachusetts Right To Know Components

Phosphoric acid CAS-No. 7664-38-2 Revision Date 1993-04-24

Pennsylvania Right To Know Components

Phosphoric acid CAS-No. 7664-38-2 Revision Date 1993-04-24

Water CAS-No. 7732-18-5

New Jersey Right To Know Components

Phosphoric acid CAS-No. 7664-38-2 Revision Date 1993-04-24

Water CAS-No. 7732-18-5

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Disclaimer

Greenfield Global USA, Inc. believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The

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