SDS

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: **Phosphoric Acid, 85% w/w**

Product Code(s): P1025, P1026

Synonyms: o-Phosphoric Acid, White Phosphoric Acid.

Recommended Use: For manufacturing, industrial, and laboratory use only. Use for neutralization of basic systems, as a catalyst, as a solvent, or as a laboratory reagent.

Uses Advised Against: Not for food, drug, or household use.

Supplier: Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

Emergency Phone Number: (800) 255-3924 (CHEM-TEL)

2. HAZARDS IDENTIFICATION

Hazard Classifications:

Acute Toxicity – Oral:	Category 4
Skin Corrosion/Irritation:	Category 1B
Eye Damage/Irritation:	Category 1

Signal Word: DANGER

Hazard Statements: Harmful if swallowed.
Causes severe skin burns and serious eye damage.

Pictograms:

Precautionary Statements:

Prevention: Wash thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Do not breathe fumes, mists, vapors or spray.
Wear protective gloves, protective clothing, eye protection, and face protection.

Response: Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards Not Otherwise Classified: Not applicable.

Toxicity Statement: Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Phosphoric Acid	o-Phosphoric Acid	7664-38-2	H_3PO_4	85 – 87
Water	Water	7732-18-5	H_2O	13 – 15

Trade Secret Statement: Not applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor immediately.

Ingestion: Do not induce vomiting. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Call a poison center or doctor immediately.

Skin Contact: Wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a poison center or doctor immediately.

Eye Contact: Check for and remove contact lenses, if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a poison center or doctor immediately.

General Advice: Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that those providing first aid and medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Symptoms and Effects: Irritation, burning, coughing, shortness of breath, hoarseness, laryngitis, nausea, vomiting, diarrhea. Corrosive. Harmful if swallowed, inhaled, or absorbed through the skin. Causes burns to the eyes, skin, respiratory tract, and gastrointestinal tract. May enter lungs if

swallowed or vomited. Liquid and vapors are corrosive. May cause tissue damage. Prolonged or repeated exposure may cause mutagenic effects.

Immediate Medical Care/ Special Treatment: Immediate medical attention is required. Call a poison center or doctor immediately. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Water spray, dry powder, alcohol resistant foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream, as it may scatter and spread fire.

Hazardous Combustion Products: Hydrogen, phosphorus compounds.

Specific Hazards: Contact with metals may produce hydrogen gas. Excessive thermal conditions may cause decomposition, yielding phosphorus compounds.

Special Protective Equipment/ Precautions for Firefighters: As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, and clothing.

Emergency Procedures: In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

Methods for Containment: Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover liquid when possible.

Methods for Cleanup: Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Residues from spills can be diluted with water and neutralized with alkaline material such as soda ash or lime. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Wear personal protective equipment (see Section 8). Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product. As with all acids, never add water directly to this product. Instead, add acids to water to prevent violent eruption of the solution.

Storage: Store above 16.5 °C in a dry, ventilated area. Keep from freezing. Store in a segregated and approved area away from heat and incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

Phosphoric Acid: OSHA: PEL: 1 mg/m^3
ACGIH: TLV: 1 mg/m^3
STEL: 3 mg/m^3

Water: No information found.

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or goggles and a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a full-face, positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Specific Requirements for Personal Protective Equipment: Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, all properties are given at 25 °C and standard pressure.

Appearance: Colorless, viscous, transparent liquid.

Odor: Odorless.

Odor Threshold: No information found.

Formula Weight: 97.99 (as H_3PO_4)

pH: 1.5 (0.1 N solution)

Melting/Freezing Point: 21 °C

Boiling Point/Range: 158 °C

Decomposition Temperature: No information found.

Flash Point: Not applicable.

Auto-ignition Temperature: Not applicable.

Flammability: Not flammable.

Flammability/Explosive Limits: Not applicable.

Solubility: Miscible with water.

Vapor Pressure: 2.3 mmHg at 20 °C

Vapor Density (Relative): 3.4 (Air = 1)

Specific Gravity:	1.685 (Water = 1)
Evaporation Rate:	No information found.
Viscosity:	No information found.
Partition Coefficient (n-octanol/water):	No information found.

10. STABILITY AND REACTIVITY

Reactivity Data:	Corrosive. See Section 11.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Excessive heat, incompatible materials.
Incompatible Materials:	Strong bases, organic compounds, combustible materials, metals.
Hazardous Decomposition Products:	Hydrogen, phosphorus compounds.
Possibility of Hazardous Reactions:	May react vigorously, violently, or explosively with the incompatible materials listed above. Excess thermal conditions may cause decomposition and yield hazardous phosphorus compounds. Contact with metals may produce hazardous concentrations of hydrogen gas.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure:	Inhalation, ingestion, skin contact, eye contact.
Acute Effects:	Corrosive. Harmful if swallowed, inhaled, or absorbed through the skin. Causes burns to the eyes, skin, respiratory tract, and gastrointestinal tract. May enter lungs if swallowed or vomited. Liquid and vapors are corrosive. May cause tissue damage.
Chronic Effects:	Prolonged or repeated exposure may cause mutagenic effects.
Toxicological Data:	Phosphoric Acid: LD50 Oral, Rat: 1530 mg/kg LD50 Dermal, Rabbit: 2740 mg/kg Corrosive to skin and eyes based on animal data. May cause mutagenic effects based on animal data. Water: No information found.
Symptoms of Exposure:	Irritation, burning, coughing, shortness of breath, hoarseness, laryngitis, nausea, vomiting, diarrhea.
Carcinogenic Effects:	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Data:	Phosphoric Acid: No information found. Water: No information found.
Persistence and Degradability:	Expected to be readily biodegradable.

Environmental Effects: May be harmful to aquatic organisms. May affect pH of aquatic environments. Avoid release to the environment.

13. DISPOSAL INFORMATION

Disposal Instructions: Dispose of this material and its container to hazardous or special waste collection point. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or into sewers. All wastes must be handled in accordance with local, state, and federal regulations.

Contaminated Packaging: Because emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

Waste Codes: D002: Waste Corrosive material (pH ≤ 2 or pH ≥12.5 or corrosive to steel)

14. TRANSPORT INFORMATION

DOT:

UN Number: UN1805

Proper Shipping Name: Phosphoric acid solution

Hazard Class: 8

Packing Group: III

ERG Number: 154

Environmental Hazard Regulations: Not a marine pollutant.

Other Transport Precautions: DOT Reportable Quantity: Phosphoric Acid: 5000 lb

15. REGULATORY INFORMATION

U.S. Federal Regulations:

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

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: No information found.

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

Section 313: No information found.

CERCLA Reportable Quantities: Phosphoric Acid: 5000 lb

International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing countries.

16. OTHER INFORMATION

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Issue Date: May 19, 2016

Reason for Revision: Update of Section 1, 9 over 04/09/2015 version.