

# Safety Data Sheet

## Phosphoric Acid, 85% ACS

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Phosphoric Acid, 85% ACS

**Synonyms/Generic Names:** Orthophosphoric acid

**Product Number:** 4079

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**Hazard Not Otherwise Classified (HNOC):** None

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

|                        |             |
|------------------------|-------------|
| Corrosive to metals    | Category 1  |
| Skin corrosion         | Category 1B |
| Serious eye damage     | Category 1  |
| Acute toxicity, Dermal | Category 5  |
| Acute toxicity, Oral   | Category 4  |

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

|      |  |
|------|--|
| H290 | May be corrosive to metals.              |
| H302 | Harmful if swallowed.                    |
| H313 | May be harmful in contact with skin.     |
| H314 | Causes severe skin burns and eye damage. |

**Precautionary Statements:**

|      |                                  |
|------|----------------------------------|
| P234 | Keep only in original container. |
|------|----------------------------------|

|                |  |
|----------------|--|
| P260           | Do not breathe dusts or mists.   |
| P264           | Wash hands thoroughly after handling.  |
| P270           | Do not eat, drink or smoke when using this product.  |
| P280           | Wear protective gloves/protective clothing/eye protection/face 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 skin with water/shower.                              |
| 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. |
| P310           | Immediately call a POISON CENTER/doctor/physician.   |
| P363           | Wash contaminated clothing before reuse.   |
| P390           | Absorb spillage to prevent material damage.  |
| P405           | Store locked up.   |
| P406           | Store in corrosive resistant container with a resistant liner.   |
| P501           | Dispose of contents/container in accordance with local regulations.  |

### Potential Health Effects

|                   |  |
|-------------------|--|
| <b>Eyes</b>       | Causes eye irritation.   |
| <b>Inhalation</b> | May be harmful if inhaled. Causes respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. Causes skin irritation. |
| <b>Ingestion</b>  | May be harmful if swallowed.                                     |

### NFPA Ratings

|                        |     |
|------------------------|-----|
| <b>Health</b>          | 3   |
| <b>Flammability</b>    | 0   |
| <b>Reactivity</b>      | 0   |
| <b>Specific hazard</b> | N/A |

### HMIS Ratings

|                   |   |
|-------------------|---|
| <b>Health</b>     | 3 |
| <b>Fire</b>       | 0 |
| <b>Reactivity</b> | 0 |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component       | Weight % | CAS #     | EINECS# / ELINCS# | Formula                        | Molecular Weight |
|-----------------|----------|-----------|-------------------|--------------------------------|------------------|
| Phosphoric Acid | 85       | 7664-38-2 | 231-633-2         | H <sub>3</sub> PO <sub>4</sub> | 98.00 g/mol      |
| Water           | Balance  | 7732-18-5 | 231-791-2         | H <sub>2</sub> O               | 18.00 g/mol      |

## 4. FIRST-AID MEASURES

|                   |  |
|-------------------|--|
| <b>Eyes</b>       | Rinse with plenty of water for at least 15 minutes and seek medical attention immediately.   |
| <b>Inhalation</b> | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| <b>Skin</b>       | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.            |
| <b>Ingestion</b>  | <b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.      |

## 5. FIRE-FIGHTING MEASURES

|  |  |
|--|--|
| <b>Suitable (and unsuitable) extinguishing media</b> | Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water. |
|--|--|

|  |   |
|--|---|
| <b>Special protective equipment and precautions for firefighters</b> | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. |
| <b>Specific hazards arising from the chemical</b>                    | Emits toxic fumes (phosphorus oxides) under fire conditions. (See also Stability and Reactivity section).           |

## 6. ACCIDENTAL RELEASE MEASURES

|  |   |
|--|---|
| <b>Personal precautions, protective equipment and emergency procedures</b> | See section 8 for recommendations on the use of personal protective equipment.  |
| <b>Environmental precautions</b>   | Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.   |
| <b>Methods and materials for containment and cleaning up</b>               | Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. |

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure controls:

| Component       | Exposure Limits        | Basis | Entity |
|-----------------|------------------------|-------|--------|
| Phosphoric Acid | 1 mg/m <sup>3</sup>    | TLV   | ACGIH  |
|                 | 3 mg/m <sup>3</sup>    | STEL  | ACGIH  |
|                 | 1 mg/m <sup>3</sup>    | PEL   | OSHA   |
|                 | 1 mg/m <sup>3</sup>    | REL   | NIOSH  |
|                 | 3 mg/m <sup>3</sup>    | STEL  | NIOSH  |
|                 | 1000 mg/m <sup>3</sup> | IDLH  | OSHA   |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

|                   |   |
|-------------------|---|
| <b>Eyes</b>       | Wear chemical safety glasses or goggles, and face shield.   |
| <b>Inhalation</b> | Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator. |

|              |  |
|--------------|--|
| <b>Skin</b>  | Wear nitrile or rubber gloves, and full body covering. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| <b>Other</b> | Not Available  |

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |  |
|---|--|
| Appearance (physical state, color, etc.)    | Syrupy, viscous, clear liquid.         |
| Odor  | Odorless.                              |
| Odor threshold                              | Not Available                          |
| pH  | Acidic.                                |
| Melting point/freezing point                | 21°C (70°F)                            |
| Initial boiling point and boiling range     | 158°C (316°F)                          |
| Flash point                                 | Not Flammable                          |
| Evaporation rate                            | Not Available                          |
| Flammability (solid, gas)                   | Not Flammable                          |
| Upper/lower flammability or explosive limit | Not Explosive                          |
| Vapor pressure                              | 0.3 kPa at 20°C                        |
| Vapor density                               | 3.4                                    |
| Density                                     | 1.685 g/cm <sup>3</sup> at 25°C (77°F) |
| Solubility (ies)                            | Soluble in water.                      |
| Partition coefficient: n-octanol/water      | Not Available                          |
| Auto-ignition temperature                   | Not Available                          |
| Decomposition temperature                   | Not Available                          |

## 10. STABILITY AND REACTIVITY

|   |                                |
|---|--------------------------------|
| <b>Chemical Stability</b>                 | Stable                         |
| <b>Possibility of Hazardous Reactions</b> | Will not occur.                |
| <b>Conditions to Avoid</b>                | Not Available                  |
| <b>Incompatible Materials</b>             | Strong bases, powdered metals. |
| <b>Hazardous Decomposition Products</b>   | Phosphorus oxides.             |

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

|                    |                             |
|--------------------|-----------------------------|
| <b>Skin</b>        | LD50 – Rabbit – 2,740 mg/kg |
| <b>Eyes</b>        | Not Available               |
| <b>Respiratory</b> | Not Available               |
| <b>Ingestion</b>   | LD50 – Rat – 1,530 mg/kg    |

### Carcinogenicity

|              |  |
|--------------|--|
| <b>IARC</b>  | No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| <b>ACGIH</b> | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.            |
| <b>NTP</b>   | No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.                 |

|             |  |
|-------------|--|
| <b>OSHA</b> | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
|-------------|--|

### Signs & Symptoms of Exposure

|                    |  |
|--------------------|--|
| <b>Skin</b>        | Burning, itching, redness, inflammation, swelling of exposed tissue.                       |
| <b>Eyes</b>        | Eye burns, watering eyes.  |
| <b>Respiratory</b> | Burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. |
| <b>Ingestion</b>   | Burning, choking, nausea, vomiting, severe pain.   |

|                                       |  |
|---------------------------------------|--|
| <b>Chronic Toxicity</b>               | Damage to organs.                      |
| <b>Teratogenicity</b>                 | Not Available                          |
| <b>Mutagenicity</b>                   | Not Available                          |
| <b>Embryotoxicity</b>                 | Not Available                          |
| <b>Target Organ(s)</b>                | Blood, liver, skin, eyes, bone marrow. |
| <b>Reproductive Toxicity</b>          | Not Available                          |
| <b>Respiratory/Skin Sensitization</b> | Not Available                          |

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

|                             |               |
|-----------------------------|---------------|
| <b>Aquatic Vertebrate</b>   | Not Available |
| <b>Aquatic Invertebrate</b> | Not Available |
| <b>Terrestrial</b>          | Not Available |

|                                      |               |
|--------------------------------------|---------------|
| <b>Persistence and Degradability</b> | Not Available |
| <b>Bioaccumulative Potential</b>     | Not Available |
| <b>Mobility in Soil</b>              | Not Available |
| <b>PBT and vPvB Assessment</b>       | Not Available |
| <b>Other Adverse Effects</b>         | Not Available |

## 13. DISPOSAL CONSIDERATIONS

|                                  |   |
|----------------------------------|---|
| <b>Waste Product or Residues</b> | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue. |
| <b>Product Containers</b>        | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.  |

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

## 14. TRANSPORTATION INFORMATION

|                  |   |
|------------------|---|
| US DOT           | UN1805, Phosphoric acid solution, 8, pg III |
| TDG              | UN1805, PHOSPHORIC ACID SOLUTION, 8, PG III |
| IMDG             | UN1805, PHOSPHORIC ACID SOLUTION, 8, PG III |
| Marine Pollutant | No  |
| IATA/ICAO        | UN1805, Phosphoric acid solution, 8, pg III |

## 15. REGULATORY INFORMATION

|   |  |
|---|--|
| TSCA Inventory Status   | All ingredients are listed on the TSCA Active inventory. |
| DSL / NDSL  | All ingredients are listed on the DSL inventory.         |
| California Proposition 65                                       | Not Listed   |
| Rhode Island: Hazardous Substance List                          | Listed: Phosphoric Acid                                  |
| Massachusetts: Toxic or Hazardous Substance List, Right to Know | Not Listed   |
| Pennsylvania: Hazardous Substance List                          | Listed: Phosphoric Acid                                  |
| New Jersey: Right to Know Hazardous Substance List              | Listed: Phosphoric Acid                                  |
| SARA 302  | Not Listed   |
| SARA 304  | Not Listed   |
| SARA 311  | Reactive Hazard, Acute Health Hazard.                    |
| SARA 312  | Reactive Hazard, Acute Health Hazard.                    |
| SARA 313  | Not Listed   |
| WHMIS Canada  | Class E: Corrosive material.                             |

## 16. OTHER INFORMATION

| Revision   | Date       |
|------------|------------|
| Original   | 09/10/2019 |
| Revision 1 | 03/21/2022 |
|            |            |

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