# Material Safety Data Sheet
## J. R. Simplot Company
## AgriBusiness

**Trade Name:** Simphos 23.5 P, Defluorinated Phosphoric Acid 0-53.6-0 **M70200**
**Registration No:** None

## SECTION 1 CHEMICAL PRODUCT AND COMPANY INFORMATION

**Manufacturer or Formulator:** J.R. Simplot Company
P.O. Box 70013
Boise, ID 83707
**Emergency Phone - Chemtrec:** 1-800-424-9300

**Product Name:** Simphos 23.5 P, Defluorinated Phosphoric Acid 0-53.6-0
**Common Name:** Phosphoric Acid
**Chemical Type:** Phosphoric Acid

## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name and Synonyms | C.A.S. No. | Chemical Formula | WT% | TLV | PEL |
|---|---|---|---|---|---|
| | | | **Hazardous** | | |
| Phosphoric Acid AS | 7664-38-2 | $H_3PO_4$ | 75% | 1 mg/m$^3$ (3 mg/m$^3$ STEL) | 1 mg/m$^3$ |
| | | | **Non-Hazardous** | | |
| Non-hazardous | | | 25% | | |

## SECTION 3 HAZARDS IDENTIFICATION

**Ingestion:** Ingestion may result in irritation and burning of mucous membranes and/or gastrointestinal tract.
**Inhalation:** Inhalation of acid mist may produce mild to severe irritation of respiratory tract. Some rail cars of Phosphoric acid may have an off gas of fluorine. Follow proper unloading procedures on this sheet under section 7 to eliminate possible exposure.
**Eye Contact:** Will produce severe irritation. Prolonged contact may result in burn to eye causing permanent damage.
**Skin Absorption:** May produce mild to severe irritations. Prolonged contact may result in chemical burns.
**Skin Contact:** May produce mild to severe irritations. Prolonged contact may result in chemical burns.
**Effects of Overdose:** Severe conjunctivitis which may result in permanent damage. Can result in nausea and vomiting with severe abdominal pain. Prolonged contact with acid mist can result in severe respiratory irritation.

## SECTION 4 FIRST AID MEASURES

**Ingestion:** Dilute with 2-3 glasses of milk or water. Do not induce vomiting. Consult a physician immediately.
**Inhalation:** Remove person to fresh air. If person is not breathing, perform artificial respiration if properly trained. Seek medical attention immediately.
**Eyes:** Promptly flush eyes with clean, cool water for at least 15 minutes. Contact a physician immediately.
**Skin:** Promptly remove contaminated clothing and rinse area with clear water for 15 minutes.

## SECTION 5 FIRE FIGHTING MEASURES

**Extinguishing Media:** Non-flammable. Use media suitable to extinguish source of fire.
**Special Fire Fighting Procedures:** When phosphoric acid mists from hot fires may be encountered, self-contained breathing apparatus (SCBA) should be worn.
**Unusual Fire and Explosion Hazards:** Not listed

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Environmental Precautions:** Low toxicity to aquatic life. Do not contaminate any watercourse or other body of water by direct application, disposal, or cleaning of equipment.
**Steps to be taken in case material is released or spilled:**
Dike around spill for containment and recover for re-processing. Small spills can be safely neutralized with limestone or soda ash. Caustic soda should be avoided because of excessive reactivity.

## SECTION 7 HANDLING AND STORAGE

**Precautions to be taken in handling and storing:**
When unloading a rail car always open vent valve on top of rail car before opening dome and let sit an adequate amount of time to mitigate possible exposure to any off gas of chlorine. Always wear proper protective equipment. Avoid storage and/or transfer in tanks, lines and other equipment constructed or materials not specifically designed and approved for phosphoric acid service. Avoid freezing weather below 1$^o$F. Have adequate first aid water available.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ventilation Protection:** General area ventilation.
**Respiratory Protection:** Approved respirators suitable for protection against acid mists and vapors. Not required for normal work procedures, but if misting occurs and always during unloading, use a high efficiency particulate respirator or self-contained breathing apparatus, with a full face shield when exposed above the TLV. Check with respirator manufacturer to determine the appropriate type of equipment for a given application.
**Protective Clothing:** Rubber clothing, chemical gloves, footwear and chemical hat or hood suitable for protection against acids.
**Eye Protection:** Tight sealing splash proof goggles.
**Other:** Eyewash and safety shower in work areas.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Boiling Point:** | Approx. 270°F @ 1 atmosphere | **Solubility in Water:** | Complete |
| **Specific Gravity:** | 1.39 - 2.00 | **% Volatiles (by volume):** | <1.0 |
| **Flashpoint:** | Not applicable | **Vapor Pressure, mm Hg:** | 5.0 @ 78°F |
| **pH:** | Strongly acidic; <1.0 | **Reaction with Water:** | Exothermal, produces heat. |
| **Appearance:** | Green, viscous liquid. Odorless when cold; pungent when hot. | | |
| **Extinguishing Media:** | Non-flammable. Use media suitable to extinguish source of fire. | | |

## SECTION 10 STABILITY AND REACTIVITY

**Stability (Normal Conditions):** Stable
**Conditions to Avoid:** Avoid contact with strong alkalies or metals other than certain stainless steels.
**Incompatibility (Material to Avoid):** Reacts violently with strong alkalies producing heat. Contact with many metals may result in severe corrosion attack of the metal and liberation of hydrogen gas.
**Hazardous Decomposition Products:** High temperatures will liberate phosphorus oxides.
**Hazardous Polymerization:** Will not occur

## SECTION 11 TOXICOLOGY INFORMATION

**Acute Oral Toxicity:** $LD_{50}$ (rat) is greater than 1,530 mg/kg (phosphoric acid); not acutely toxic by oral exposure. (TFI Product Testing Results, OECD Guideline 425)
**Acute Dermal Toxicity:** $LD_{50}$ (rat) is greater than 3,160 mg/kg (phosphoric acid); not acutely toxic by dermal exposure. (TFI Product Testing Results, OECD Guideline 402).
**Acute Inhalation Toxicity:** $LC_{50}$ (guinea pig, mouse, rat, rabbit) is 61-1,689 mg/m$^3$ (phosphoric acid); highly toxic by inhalation. (TFI Product Testing Results)
**Acute Fish Toxicity:** 96-hour $LC_{50}$ is 3.0-3.5 mg/L (ppm); moderate toxicity to aquatic organisms. (TFI Product Testing Results, OECD Guideline 203)

## SECTION 12 ECOLOGICAL INFORMATION

None listed.

## SECTION 13 DISPOSAL CONSIDERATIONS

**Waste Disposal Procedures:** Collect and reprocess where possible. Following neutralization with limestone or soda ash, consult local, state and federal regulations before final disposal.

## SECTION 14 TRANSPORT INFORMATION

| | | | |
|---|---|---|---|
| **Shipping name:** | RQ Phosphoric Acid, 8, UN1805, P.G. III | | |
| **Hazard Class:** | 8 | **C.A.S. Number:** | 7664-38-2 |
| **Reportable Quantity (RQ):** | 5000 lbs. | **D.O.T. Number:** | UN1805 |
| **Labels Required:** | Corrosive | **Haz Waste No:** | D002 |
| **Placard:** | Corrosive | **EPA Regist No:** | None |
| **Packaging Group:** | III | | |

Refer to 49 CFR 172.101 Hazardous Material Table for further provisions, packaging authorizations and quantity limitations.

## SECTION 15 REGULATORY INFORMATION

**Carcinogenicity: by IARC?: Yes ( ) No (X)** **by NTP?: Yes ( ) No (X)** Not on the 302 list of SARA reportable quantities.

## SECTION 16 OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **Flash Point (Test Method):** | Non-flammable | **Flammable Limits** | **LOWER** | **UPPER** |
| **Autoignition Temperature:** | Not applicable | (% BY VOLUME) | N/A | N/A |

**Hazard Rating (N.F.P.A.):** **Health:** 2 **Fire:** 0 **Reactivity:** 0 **Specific:** Not applicable
This N.F.P.A. rating is a recommendation by the manufacturer using the guidelines or published evaluations prepared by the National Fire Protection Association (N.F.P.A.).

**MSDS Version Number: 7** (revisions to Section 15)



**Reviewed by:** The Environmental Health & Safety Department
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