

Material Safety Data Sheet

Phosphoric Acid, 85%

ACC# 18691

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphoric Acid, 85%

Catalog Numbers: S80124, A242-1, A242-212, A242-4, A242-500, A242212001, A2424LC, A242FB115, A242FB19, A242FB200, A242FB50, A242J500, A242P 4, A242P 500, A242P-4, A242P-500, A242SK-212, A242SS200, A242SS28, A242SS50, A260-500, A260J500, A365-1, A365-4, A36620, A3664, NC9577323, NC9857172, NC9859987, XXA242PP20LI, XXMAR77018022

Synonyms: Orthophosphoric Acid; Hydrogen Phosphate.**Company Identification:**

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7664-38-2	Phosphoric acid	85	231-633-2
7732-18-5	Water	15	231-791-2

Hazard Symbols: C**Risk Phrases:** 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 10 max - colorless viscous liquid. **Danger!** Corrosive. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Causes severe eye and skin irritation and burns. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Harmful if inhaled. May be harmful if swallowed.

Target Organs: Blood, liver, bone marrow.**Potential Health Effects**

Eye: Contact with liquid is corrosive to the eyes and causes severe burns. May cause chemical conjunctivitis and corneal damage.

Skin: Contact with liquid is corrosive and causes severe burns and ulceration. May cause skin rash (in

milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion: Causes gastrointestinal tract burns. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause hemorrhaging of the digestive tract. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. May be harmful if swallowed. May form methemoglobin which in sufficient concentration causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

Inhalation: Harmful if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis. Effects may be delayed. Chronic exposure may cause liver damage. May cause cyanosis - a blue-gray coloring of the skin and lips caused by a lack of oxygen. Inhalation of vapors at high concentrations may produce pulmonary edema characterized by fluid build-up in the lungs.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Destroy contaminated shoes.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at increased risk to the effects of this substance. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. Cool containers with flooding quantities of water until well after fire is out. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use with adequate ventilation. Use only in a chemical fume hood. Discard contaminated shoes.

Storage: Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Do not store in metal containers. Store away from alkalis.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phosphoric acid	1 mg/m ³ TWA; 3 mg/m ³ STEL	1 mg/m ³ TWA 1000 mg/m ³ IDLH	1 mg/m ³ TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Phosphoric acid: 1 mg/m³ TWA; 3 mg/m³ STEL Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Appearance: APHA: 10 max - colorless viscous liquid

Odor: odorless

pH: 1.5 (0.1N aq. soln)

Vapor Pressure: 2.2 mm Hg @ 20 deg C

Vapor Density: 3.4

Evaporation Rate: Not available.

Viscosity: 3.86 mPa.s

Boiling Point: 158 deg C @ 760.00mm Hg

Freezing/Melting Point: 42.35 deg C

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Decomposition Temperature: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Reactivity: 0
Explosion Limits, Lower:Not available.
Upper: Not available.
Solubility: Miscible.
Specific Gravity/Density:1.6850g/cm³
Molecular Formula:H₃O₄P
Molecular Weight:98.00

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, metals, excess heat.

Incompatibilities with Other Materials: Strong bases, ammonia, finely powdered metals, organic peroxides, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), cyanides (e.g. potassium cyanide, sodium cyanide), fluorides (inorganic, e.g. ammonium fluoride, calcium fluoride, cesium fluoride), halogenated organics (e.g. dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), mercaptans and other organic sulfides (e.g. butyl mercaptan, carbon disulfide, methanethiol), nitromethane, sodium tetrahydroborate, sulfites, mineral acids, bleaching powder, aldehydes, strong alkalies, chlorides, nickel carbonate.

Hazardous Decomposition Products: Phosphine, oxides of phosphorus, irritating and toxic fumes and gases.

Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 7664-38-2: TB6300000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 7664-38-2:

Draize test, rabbit, eye: 119 mg Severe;

Draize test, rabbit, skin: 595 mg/24H Severe;

Inhalation, rat: LC50 = >850 mg/m³/1H;

Oral, rat: LD50 = 1530 mg/kg;

Skin, rabbit: LD50 = 2740 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 7664-38-2: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: CAS# 7664-38-2: Standard Draize Test: skin, rabbit = 595 mg /24H (Severe).; Standard Draize Test: eye, rabbit = 119 mg (Severe).

Section 12 - Ecological Information

Ecotoxicity: Fish: Mosquito Fish: LC50 = 138 mg/L; 96 Hr; Unspecified No data available.

Environmental: The acidity of phosphoric acid may be reduced readily by natural water hardness minerals, but the phosphate may persist indefinitely. During transport through the soil, phosphoric acid will dissolve some of the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree with adsorption of the proton and phosphate ions also possible. However, significant amounts of acid will remain for transport down toward the groundwater table.

Physical: No information available.

Other: Dangerous to aquatic life in high concentrations.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	PHOSPHORIC ACID				PHOSPHORIC ACID
Hazard Class:	8				8(9.2)
UN Number:	UN1805				UN1805
Packing Group:	III				III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7664-38-2 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA**Section 302 (RQ)**

CAS# 7664-38-2: final RQ = 5000 pounds (2270 kg)

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7664-38-2: acute.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 7664-38-2 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7664-38-2 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

C

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 7664-38-2: 1

CAS# 7732-18-5: No information available.

Canada

CAS# 7664-38-2 is listed on Canada's DSL List. CAS# 7664-38-2 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List.

This product has a WHMIS classification of E.

CAS# 7664-38-2 is listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7664-38-2: OEL-ARAB Republic of Egypt:TWA 1 mg/m³ OEL-AUSTRALIA:TWA 1 mg/m³;STEL 3 mg/m³ OEL-BELGIUM:TWA 1 mg/m³;STEL 3 mg/m³ OEL-DENMARK:TWA 1 mg/m³ OEL-FINLAND:TWA 1 mg/m³;STEL 3 mg/m³;Skin OEL-FRANCE:TWA 1 mg/m³;STEL 3 mg/m³ OEL-JAPAN:TWA 1 mg/m³ OEL-THE NETHERLANDS:TWA 1 mg/m³;STEL 3 mg/m³

NDS:TWA 1 mg/m³ OEL-THE PHILIPPINES:TWA 1 mg/m³ OEL-SWEDEN:TWA 1 mg/m³;STEL 3 mg/m³ OEL-SWITZERLAND:TWA 1 mg/m³ OEL-THAILAND:TWA 1 mg/m³ OEL-UNITED KINGDOM:TWA 1 mg/m³;STEL 1 ppm (3 mg/m³) OEL IN BULGARIA , COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 7/06/1999

Revision #2 Date: 9/18/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.