

Material Safety Data Sheet

Phosphoric acid, 85+% solution in water

ACC# 18691

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphoric acid, 85+% solution in water

Catalog Numbers: AC201140000, AC201140010, AC201140025, AC201140050, AC201145000, AC295700000, AC295700010, AC295700025, AC389020000, AC389020025, AC389021000, AC389025000, AC424040000, S80124, S93325, S93326, 42404-0025, 42404-5000, A242-1, A242-212, A242-212001, A242-4, A242-4LC, A242-500, A242FB115, A242FB19, A242FB200, A242FB50, A242J500, A242P-4, A242P-500, A242SK-212, A242SS200, A242SS28, A242SS50, A260-500, A260J500, A365-1, A365-4, A365-4LC, A366-20, A366-4, A3664LC

Synonyms: Orthophosphoric acid.

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

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 10 max liquid.

Danger! Causes burns by all exposure routes. Hygroscopic (absorbs moisture from the air).

Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: May cause irreversible eye injury. Contact with liquid is corrosive to the eyes and causes severe burns.

Skin: Contact with liquid is corrosive and causes severe burns and ulceration.

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.

Inhalation: Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes chemical burns to the respiratory tract.

Chronic: Prolonged inhalation may cause respiratory tract inflammation and lung damage. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

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

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. 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.

Notes to Physician: 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. Substance is noncombustible.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 1

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. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container. Corrosives area. Do not store in metal containers.

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 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 respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: APHA: 10 max
Odor: odorless
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: 3.4 (air=1)
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 158 deg C @ 760 mmHg
Freezing/Melting Point: 21 deg C
Decomposition Temperature: 300 deg C
Solubility: Miscible.
Specific Gravity/Density: 1.680
Molecular Formula: H₃O₄P
Molecular Weight: 98

Section 10 - Stability and Reactivity

Chemical Stability: Hygroscopic: absorbs moisture or water from the air.
Conditions to Avoid: Incompatible materials, metals, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials: Metals, bases, alcohols, amines, halogenated agents, organic peroxides, amides, azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), carbamates (e.g. carbanolate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), fluorides (inorganic, e.g. ammonium fluoride, calcium fluoride, cesium fluoride), phenols and cresols, organophosphates, phosphothioates (e.g. methylparathion, parathion, phorate, thionazin), epoxides (e.g. butyl glycidyl ether), combustible and flammable materials (e.g. alkyl resins, asphalt, gasoline, grease, methyl acetone, polystyrene, polyurethane), explosives (e.g. ammonium nitrate, hydrazoic acid, sodium azide), nitromethane, sodium tetrahydroborate, mercaptans, aldehydes, ketones, glycols, cyanides, sulfides, caustics.
Hazardous Decomposition Products: Phosphine, oxides of phosphorus, hydrogen gas.
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, mouse: LC50 = 25.5 mg/m³;
Inhalation, rat: LC50 = >850 mg/m³/1H;
Inhalation, rat: LC50 = 25.5 mg/m³;
Oral, mouse: LD50 = 1.25 gm/kg;
Oral, rat: LD50 = 1530 mg/kg;
Oral, rat: LD50 = 1.25 gm/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, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

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	Canada TDG
Shipping Name:	PHOSPHORIC ACID SOLUTION	PHOSPHORIC ACID SOLUTION
Hazard Class:	8	8
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.

CERCLA Hazardous Substances and corresponding RQs

CAS# 7664-38-2: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7664-38-2: immediate.

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, Pennsylvania, Minnesota, Massachusetts.

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

California Prop 65

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 - DSL/NDSL

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

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

Canada - WHMIS

This product has a WHMIS classification of E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7664-38-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/06/1999

Revision #10 Date: 1/28/2008

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.

