



MATERIAL SAFETY DATA SHEET
Phosphoric acid, 85%

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphoric acid, 85%

Catalog Numbers: O/0450/25, O/0450/PB08, O/0450/PB15, O/0450/PB17, O/0450/PB21, O/0500/25, O/0500/27, O/0500/PB08, O/0500/PB15, O/0500/PB17, O/0503/PB17, O/0505/27, O/0505/PB17, O/0515/PB08

Synonyms: Orthophosphoric acid; White phosphoric acid.

Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG

For information in Europe, call: (01509) 231166

Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
7664-38-2	Phosphoric acid	>85	231-633-2	C	
7732-18-5	Water	<15	231-791-2		

Text for R-phrases: see Section 16

Hazard Symbols: C



Risk Phrases: 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Causes burns. Hygroscopic (absorbs moisture from the air).

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. The severity of injury depends on the concentration of the solution and the duration of exposure.

Ingestion: Causes gastrointestinal tract burns. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Inhalation: Causes chemical burns to the respiratory tract. Because its vapor pressure is negligible, it exists in the air only as a mist or spray.

Chronic: Prolonged or repeated skin contact may cause dermatitis.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion:	If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
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. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Contact with metals may evolve flammable hydrogen gas.
Extinguishing Media:	Use extinguishing media most appropriate for the surrounding fire.

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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Spill may be carefully neutralized with lime (calcium oxide, CaO).

Section 7 - Handling and Storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use with adequate ventilation. 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 protected from moisture. 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 adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 7664-38-2:

United Kingdom, WEL - TWA: 1 mg/m³ TWA United Kingdom, WEL - STEL: 2 mg/m³ STEL
 United States OSHA: 1 mg/m³ TWA
 Belgium - TWA: 1 mg/m³ VLE Belgium - STEL: 2 mg/m³ VLE
 France - VME: 0.2 ppm VME; 1 mg/m³ VME France - VLE: 0.5 ppm VLE; 2 mg/m³ VLE
 Germany: 1 mg/m³ TWA (exposure factor 2)
 Japan: 1 mg/m³ OEL
 Malaysia: 1 mg/m³ TWA
 Netherlands: 0.5 ppm STEL; 2 mg/m³ STEL Netherlands: 0.2 ppm MAC; 1 mg/m³ MAC

Spain: 1 mg/m³ VLA-ED Spain: 2 mg/m³ VLA-EC

CAS# 7732-18-5:

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

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: Clear liquid

Color: APHA: 10 max - colorless viscous

Odor: odorless

pH: 1.5 (0.1N aq. soln)

Vapor Pressure: 0.03 mm Hg @ 20 deg C

Viscosity: 3.86 mPa.s

Boiling Point: 158 deg C @ 760 mm Hg (316.40°F)

Freezing/Melting Point: 21 deg C (69.80°F)

Autoignition Temperature: Not applicable

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature: Not available

Solubility in water: Miscible

Specific Gravity/Density: 1.685 g/cm³

Molecular Formula: H₃O₄P

Molecular Weight: 98.00

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Excess heat, exposure to moist air or water.

Incompatibilities with Other Materials Metals, strong oxidizing agents, strong bases, amines, ammonia, sulfuric acid, nitromethane, sodium tetrahydroborate, A 5% solution of H₃PO₄ is DOT corrosive to both aluminum & carbon steel (results: 272.1 mils/yr & 319.6 mils/yr, respectively). A 4% H₃PO₄ solution corrodes aluminum at 209.1 mils/yr & carbon steel at 240.9 mils/yr..

Hazardous Decomposition Products Oxides of phosphorus.

Hazardous Polymerization Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 7664-38-2: TB6300000

CAS# 7732-18-5: ZC0110000

LD50/LC50: RTECS:

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;

RTECS:

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity: Phosphoric acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: 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

Other: Dangerous to aquatic life in high concentrations.

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	PHOSPHORIC ACID, SOLUTION	PHOSPHORIC ACID, SOLUTION	PHOSPHORIC ACID, SOLUTION
Hazard Class:	8	8	8
UN Number:	1805	1805	1805
Packing Group:	III	III	III

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

Section 15 - Regulatory Information

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: Not available

Canada

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

US Federal

TSCA

CAS# 7664-38-2 is listed on the TSCA Inventory.
CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

MSDS Creation Date: 7/06/1999

Revision #8 Date 1/09/2006

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