

Mallinckrodt

PHOSPHORIC ACID

Material Safety Data Sheet

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Emergency Telephone Number
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Effective Date: 09-05-85

PRODUCT IDENTIFICATION:

Synonyms: Ortho-phosphoric acid; white phosphoric acid

Formula CAS No.: 7664-38-2 Molecular Weight: 98.00

Hazardous Ingredients: Chemical Formula: H_3PO_4

Not applicable.

PRECAUTIONARY MEASURES

DANGER! CAUSES SEVERE BURNS. HARMFUL IF SWALLOWED OR INHALED.

Avoid contact with eyes, skin and clothing.

Keep container closed.

Use with adequate ventilation.

Avoid breathing mist.

Wash thoroughly after handling.

EMERGENCY/FIRST AID

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. If swallowed, DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

In all cases call a physician.

SEE SECTION 5.

DOT Hazard Class: Corrosive Material

Physical Data

SECTION 1

Appearance: Clear, colorless syrupy liquid.

Odor: Odorless.

Solubility: Miscible in all proportions in water.

Boiling Point: 85%: 158°C (316°F)
75%: 135°C (275°F)

Vapor Density (Air=1): 3.4

Melting Point: 85%: 21°C (70°F)
75%: -17.5°C (-0.5°F)

Vapor Pressure (mm Hg): @20°C (68°F)
85%: 2.16
75%: 5.65

Specific Gravity 85%: 1.69 75%: 1.56

Density 85%: 14.08 75%: 13.16

Evaporation Rate: No information found.

Fire and Explosion Information

SECTION 2

-2-

Fire:

Not considered to be a fire hazard. Contact with most metals causes formation of flammable and explosive hydrogen gas.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool. If water is used, use in abundance to control heat and acid build-up.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Reactivity Data

SECTION 3

Stability:

Stable under ordinary conditions of use and storage. Substance can supercool without crystallizing.

Hazardous Decomposition Products:

Toxic fumes of phosphorous oxides.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong caustics, metals, sulfides, and sulfites. A strong mineral acid, contact with water can cause liberation of much heat and violent spattering.

Leak/Spill Disposal Information

SECTION 4

Dike and cover leaking or spilled liquid with dirt, vermiculite, kitty-litter or other inert absorbent. Cover spill with sodium bicarbonate or soda ash and mix. Clean-up personnel require protective clothing and respiratory protection from vapors and mists. Neutralized waste may be containerized and disposed in a RCRA approved waste disposal facility. Flush area of spill with dilute soda ash solution and discard to sewer.

Reportable Quantity (RQ) (CWA/CERCLA) : 5000 lbs.

Ensure compliance with local, state and federal regulations.

Phosphoric Acid

Health Hazard Information

SECTION 3

A. Exposure/Health Effects

Inhalation:

Inhalation is not an expected hazard unless misted or heated to high temperatures. Mist or vapor inhalation can cause irritation to the nose, throat, and upper respiratory tract. Severe exposures can lead to a chemical pneumonitis.

Ingestion:

Corrosive. May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach.

Skin Contact:

Corrosive. May cause redness, pain, and severe skin burns.

Eye Contact:

Corrosive. May cause redness, pain, blurred vision, eye burns, and permanent eye damage.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

B. FIRST AID

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

If swallowed, DO NOT induce vomiting. Give large quantities of water or milk if available. Call a physician immediately. Never give anything by mouth to an unconscious person.

Skin Exposure:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.

Eye Exposure:

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA (RTECS, 1982)

Oral rat LD50: 1530 mg/kg
Skin rabbit LD50: 2740 mg/kg

Aquatic toxicity rating TLm96: 1000-10 ppm

Occupational Control Measures

SECTION 6

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):
1 mg/m³ (TWA)

-ACGIH Threshold Limit Value (TLV):
1 mg/m³ (TWA) 3 mg/m³ (STEL)

Ventilation System:

A system of local exhaust is recommended to keep employee exposures below the Airborne Exposure Limit. Local exhaust ventilation is generally preferred because it can control the emissions of the dust or vapor at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators:
(NIOSH Approved)

If the TLV is exceeded a full facepiece chemical cartridge respirator may be worn, in general, up to 1 times the TLV of the maximum use concentration specified by the respirator supplier, whichever is less. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material.

Maintain eye wash fountain and quick-drench facilities in work area.

Storage and Special Information

SECTION 7

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture, incompatibilities, and direct sunlight. Corrosive to mild steel. Store in rubber lined or 316 stainless steel designed for phosphoric acid.

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