

# SAFETY DATA SHEET

## 1 PRODUCT AND COMPANY IDENTIFICATION

**GHS Product identifier:** Phosphoric Acid

**Other means of identification**

**Synonyms:** Ortho-Phosphoric Acid, White Phosphoric Acid

**Emergency telephone:** CHEMTREC: 800-101-2201 (24/7)

## 2 HAZARDS IDENTIFICATION

**GHS classification:**

**Physical Hazards:**

Corrosive to metal Category 1

**Health Hazards:**

Acute toxicity (Oral) Category 4

Skin Corrosion/Irritation Category 1B

Serious Eye Damage/Eye Irritation Category 1

**GHS label elements:**

**Symbol(s):**



**Signal Words:** Danger

**Hazard Statement(s):** May be corrosive to metals.  
Harmful if swallowed.  
May be harmful in contact with skin.  
Causes severe skin burns and eye damage.

## Precautionary Statements

- Prevention:** Keep only in original packaging. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
- Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Absorb spillage to prevent material damage.
- Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in a corrosion-resistant container with a resistant inner liner.
- Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in classification':**
- Primary hazards:** Corrosive to metal
- Specific hazards:** No data available.

## 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substance or Preparation:

### General information:

Chemical name	Concentration	CAS-No.	EC No.
Water	13.00 - 15.00%	7732-18-5	231-791-2
Phosphoric acid	85.00 - 87.00%	7664-38-2	

## 4 FIRST AID MEASURES

- General:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Inhalation:** Move to fresh air. Call a physician or poison control center immediately. Apply artificial respiration if victim is not breathing. If breathing is difficult, give oxygen.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately.
- Skin Contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- Ingestion:** Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute delayed:** Causes severe skin and eye burns. Causes digestive tract burns.

**Indication of immediate medical attention and special treatment needed, if necessary:** Treat symptomatically. Symptoms may be delayed.

## 5 FIRE-FIGHTING MEASURES

**Extinguishing media:** The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazard arising from the chemical:** Not combustible, but if involved in a fire decomposes to produce toxic gases.

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective action for fire fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Product is highly acidic. Wear protective gear if spilled during fire fighting.

## 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them.

**Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up:** Neutralize with lime or soda ash. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Inform authorities if large amounts are involved.

## 7 HANDLING AND STORAGE

**Precautions for safe handling:** Do not get in eyes, on skin, on clothing. Do not taste or swallow. Wash thoroughly after handling. Do not eat, drink or smoke when using the product. Use caution when adding this material to water. Add material slowly when mixing with water. Do not add water to the material; instead, add the material to the water.

**Condition for safe storage, including any incompatibilities:** Do not store in metal containers. Keep container tightly closed. Store in a well-ventilated place.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Appropriated engineering control measures:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

### Occupational Exposure Limits:

Chemical name	Type	Exposure Limit Values	Source
Phosphoric acid	TWA	1 mg/m3	Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order) (2006)
	STEL	3 mg/m3	Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order) (2006)

### Personal protective equipment (ppe)

#### Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Respirator type: Chemical respirator with acid gas cartridge.

#### Eye Protection:

Wear safety glasses with side shields (or goggles) and a face shield.

#### Hand Protection:

Chemical resistant gloves

#### Skin Protection:

Wear suitable protective clothing and gloves.

#### Hygiene measures:

Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes. Avoid contact with skin.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Physical state:	Liquid
Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor Threshold:	No data available.
pH:	1.5 (3.27 g/l, 20 °C)
Freezing point:	21.1 °C
Boiling Point:	158 °C
Flash Point:	Not applicable
Evaporation Rate:	No data available.
Flammability (solid, gas):	This product is not flammable.
Flammability Limit - Upper (%)-:	No data available.
Flammability Limit - Lower (%)-:	No data available.
Vapor pressure:	0.3 kPa
Vapor density (air=1):	No data available.
Relative density:	1.69 - 1.71 (20 °C)
Solubility(ies)	
Solubility in Water:	Miscible
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.

<b>Autoignition Temperature:</b>	No data available.
<b>Decomposition Temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Explosive properties:</b>	No data available.
<b>Oxidizing properties:</b>	No data available.

## 10 STABILITY AND REACTIVITY

<b>Incompatible Materials:</b>	Strong alkalis. Strong reducing agents. Strong oxidizing agents.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Contact with incompatible materials.
<b>Hazardous Decomposition Products:</b>	oxides of phosphorus

## 11 TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation:</b>	Severely irritating to respiratory system.
<b>Ingestion:</b>	Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.
<b>Skin Contact:</b>	Causes severe skin burns.
<b>Eye contact:</b>	Causes serious eye damage.

### Information on toxicological effects

#### Acute toxicity

##### Oral

**Product:** ATEmix (Rat): 1,750 mg/kg

##### Dermal

**Product:** ATEmix (Rabbit): 3,044.44 mg/kg

##### Inhalation

**Product:** Not classified for acute toxicity based on available data.

##### Repeated dose toxicity

**Product:** No data available.

##### Skin Corrosion/Irritation:

**Product:** Causes severe skin burns.

##### Serious Eye Damage/Eye Irritation:

**Product:** Causes serious eye damage.

##### Respiratory or Skin Sensitization:

**Product:** Not a skin nor a respiratory sensitizer.

### Germ Cell Mutagenicity

#### In vitro

Product: No mutagenic components identified

#### In vivo

Product: No mutagenic components identified

### Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

### Reproductive toxicity

Product: No components toxic to reproduction

### Specific Target Organ Toxicity - Single Exposure

Product: None known.

### Specific Target Organ Toxicity - Repeated Exposure

Product: None known.

### Aspiration Hazard

Product: Not classified

Metabolism: No data available.

Other effects: Not known.

## 12 ECOLOGICAL INFORMATION

General information: Not applicable

### Ecotoxicity

#### Acute toxicity

##### Fish

Product: No data available.

##### Aquatic Invertebrates

Product: No data available.

#### Chronic Toxicity

##### Fish

Product: No data available.

##### Aquatic Invertebrates

Product: No data available.

#### Toxicity to Aquatic Plants

Product: No data available.

### Persistence and Degradability

#### Biodegradation

Product: Expected to be readily biodegradable.

#### BOD/COD Ratio

Product: No data available.

### Bioaccumulative potential

Product: No data available on bioaccumulation.

### Mobility in soil:

The product is water soluble and may spread in water systems.

**Results of PBT and vPvB assessment:** Not available.

**Other adverse effects:** The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

### 13 Disposal considerations

**Disposal methods:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

### 14 TRANSPORT INFORMATION

#### IMDG - International Maritime Dangerous Goods Code

UN Number: UN 1805  
UN Proper Shipping Name: PHOSPHORIC ACID SOLUTION  
Transport Hazard Class(es): 8  
Subsidiary risk label(s): –  
Packing Group: III  
Label(s): 8  
Marine Pollutant: Not a Marine Pollutant  
EmS No.: F-A; S-B

#### IATA

UN Number: UN 1805  
Proper Shipping Name: Phosphoric acid, solution  
Transport Hazard Class(es): 8  
Subsidiary risk label(s): –  
Packing Group: III  
Label(s): 8  
Marine Pollutant: Not a Marine Pollutant

### 15 REGULATORY INFORMATION

#### Applicable regulations:

Workplace Safety and Health Act  
Act on the Control of Transboundary Movements of Hazardous Wastes and their Disposal  
Environmental Public Health Act  
Environmental Public Health (Toxic Industrial Waste) Regulations  
Singapore. Hazardous Substances Control List (Environmental Protection and Management Act, Second Schedule, Part 1, Control of Hazardous Substances)  
Environmental Pollution Control (Hazardous Substances) Regulations  
Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order)

### 16 OTHER INFORMATION

#### Inventory Status

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory

**Revision Information:** Not relevant.

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