

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** PHOSPHORIC ACID

**Other means of identification**

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

**Product No.:** 0240, 6908, 2798, 2797, 5854, 2796, 5804, 2788, 0259, 5372, 0274, 0269, 0268, 0265, 0264, 0262, 0260, 0255, 0251

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Physical hazards**

Corrosive to metals Category 1

**Health hazards**

Acute toxicity (Oral) Category 4

Skin corrosion/irritation Category 1

Serious eye damage/eye irritation Category 1

Specific target organ toxicity - single exposure Category 3

**Unknown toxicity**

Acute toxicity, oral 0 %

Acute toxicity, dermal 0 %

Acute toxicity, inhalation, vapor 100 %

Acute toxicity, inhalation, dust or mist 100 %

**Unknown toxicity**

Acute hazards to the aquatic environment 84 %

Chronic hazards to the aquatic environment 84 %

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** May be corrosive to metals.  
Harmful if swallowed.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.

**Precautionary statement**

**Prevention:** Keep only in original container. Do not breathe dust/fume/mist/vapors. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

**Response:** Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive 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 GHS classification:** None.

**3. Composition/information on ingredients**

**Mixtures**

Chemical identity	Common name and synonyms	CAS number	Content in percent (%) <sup>*</sup>
PHOSPHORIC ACID		7664-38-2	80 - 90%

<sup>\*</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

<b>Ingestion:</b>	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.
<b>Inhalation:</b>	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.
<b>Skin contact:</b>	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.
<b>Eye contact:</b>	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.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Causes severe skin and eye burns. Causes digestive tract burns.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

<b>5. Fire-fighting measures</b>
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**General fire hazards:** No data available.

**Suitable (and unsuitable) extinguishing media**

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

**Unsuitable extinguishing media:** None known.

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

**Special protective equipment and precautions for firefighters**

**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.

**Special protective equipment 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.

<b>6. Accidental release measures</b>
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**Personal precautions, protective equipment and emergency procedures:** See Section 8 of the MSDS 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.

**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.

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

## 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.

**Conditions 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

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
PHOSPHORIC ACID	TWA	1 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
	STEL	3 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
	REL	1 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	3 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	1 mg/m <sup>3</sup>	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	3 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	1 mg/m <sup>3</sup>	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	3 mg/m <sup>3</sup>	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	10 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	1 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	TWA PEL	1 mg/m <sup>3</sup>	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	STEL	3 mg/m <sup>3</sup>	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)

**Appropriate engineering controls** No data available.

### Individual protection measures, such as personal protective equipment

<b>General information:</b>	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.
<b>Eye/face protection:</b>	Wear safety glasses with side shields (or goggles) and a face shield.
<b>Skin protection</b>	
<b>Hand protection:</b>	Chemical resistant gloves
<b>Other:</b>	Wear suitable protective clothing and gloves.
<b>Respiratory protection:</b>	In case of inadequate ventilation use suitable respirator. Respirator type: Chemical respirator with acid gas cartridge.
<b>Hygiene measures:</b>	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

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	1.5 0.1 N Aqueous solution
<b>Melting point/freezing point:</b>	21.1 °C
<b>Initial boiling point and boiling range:</b>	158 °C
<b>Flash Point:</b>	Not applicable
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	0.3 kPa
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	1.69 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Miscible with water.
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<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>	Avoid contact with oxidizing agents. Avoid contact with strong reducing agents. Contact with alkalis.
<b>Incompatible materials:</b>	Strong reducing agents. Alkalies. Strong oxidizing agents. Metals.
<b>Hazardous decomposition products:</b>	oxides of phosphorus

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	Severely irritating to respiratory system.
<b>Skin contact:</b>	Causes severe skin burns.
<b>Eye contact:</b>	Causes serious eye damage.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

**Oral**  
**Product:** ATEmix (Rat): 1,700 mg/kg

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

**Inhalation**  
**Product:** No data available.

**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 sensitizer.

**Carcinogenicity**  
**Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**  
No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**  
No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ cell mutagenicity****In vitro****Product:** No mutagenic components identified**In vivo****Product:** No mutagenic components identified**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**Other effects:**

Not known.

**12. Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** No data available.**Aquatic invertebrates****Product:** No data available.**Chronic hazards to the aquatic environment:****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****Bioconcentration factor (BCF)****Product:** No data available on bioaccumulation.**Partition coefficient n-octanol / water (log Kow)****Product:** No data available.

<b>Mobility in soil:</b>	The product is water soluble and may spread in water systems.
<b>Other adverse effects:</b>	The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

### 13. Disposal considerations

<b>Disposal instructions:</b>	Discharge, treatment, or disposal may be subject to national, state, or local laws.
<b>Contaminated packaging:</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

UN number:	UN 1805
UN proper shipping name:	Phosphoric acid solution
Transport hazard class(es)	
Class(es):	8
Label(s):	8
Packing group:	III
Marine Pollutant:	No

#### IMDG

UN number:	UN 1805
UN proper shipping name:	PHOSPHORIC ACID SOLUTION
Transport hazard class(es)	
Class(es):	8
Label(s):	8
EmS No.:	F-A, S-B
Packing group:	III
Marine Pollutant:	No

#### IATA

UN number:	UN 1805
Proper Shipping Name:	Phosphoric acid, solution
Transport hazard class(es):	
Class(es):	8
Label(s):	8
Marine Pollutant:	No
Packing group:	III

### 15. Regulatory information

#### US federal regulations

##### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

##### CERCLA Hazardous Substance List (40 CFR 302.4):

PHOSPHORIC ACID                      Reportable quantity: 5000 lbs.



**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**SARA 302 Extremely hazardous substance**

None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

Chemical identity	RQ
PHOSPHORIC ACID	5000 lbs.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
PHOSPHORIC ACID	500 lbs

**SARA 313 (TRI reporting)**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

PHOSPHORIC ACID Reportable quantity: 5000 lbs.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

PHOSPHORIC ACID Listed

**US. Massachusetts RTK - Substance List**

PHOSPHORIC ACID Listed

**US. Pennsylvania RTK - Hazardous Substances**

PHOSPHORIC ACID Listed

**US. Rhode Island RTK**

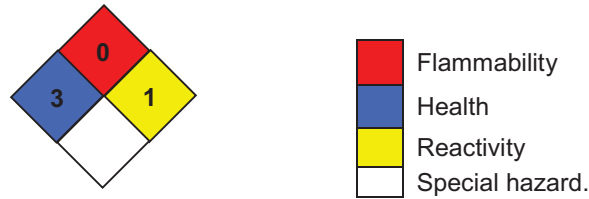
PHOSPHORIC ACID Listed

**Inventory Status:**

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

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

**Issue date:** 04-07-2014  
**Revision date:** No data available.  
**Version #:** 1.0  
**Further information:** No data available.

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