

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Phosphoric Acid

### Other means of identification

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

### Recommended use and restriction on use

**Recommended use:** For Laboratory, Research or Manufacturing Use.  
**Restrictions on use:** Not determined.

### Details of the supplier of the safety data sheet

Avantor Performance Materials, LLC  
 100 Matsonford Rd, Suite 200  
 Radnor, PA 19087

Telephone: Customer Service: 855-282-6867

Fax: Product Information Compliance  
 Contact Person: info@avantormaterials.com  
 E-mail:

### Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada (24 hrs/day, 7 days/week)

## 2. Hazard identification

### Hazard 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

#### Unknown toxicity - Health

Acute toxicity, oral 0 %  
 Acute toxicity, dermal 0 %  
 Acute toxicity, inhalation, vapor 85 %  
 Acute toxicity, inhalation, dust 85 %  
 or mist

### Label Elements

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement:** 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]. Wash contaminated clothing before reuse. 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 GHS classification:** None.

**3. Composition/information on ingredients**

**Mixtures**

Chemical name	Common name and synonyms	CAS number	Content in percent (%)*
Phosphoric acid	, ortho-Phosphoric Acid, White phosphoric acid	7664-38-2	85,00 - 87,00%

\* 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**

<b>Symptoms:</b>	Causes severe skin and eye burns. Causes digestive tract burns.
<b>Hazards:</b>	None known.

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

<b>Treatment:</b>	Treat symptomatically. Symptoms may be delayed.
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**5. Fire-fighting measures**

<b>General Fire Hazards:</b>	Product is highly acidic. Wear protective gear if spilled during fire fighting.
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**Suitable (and unsuitable) extinguishing media**

<b>Suitable extinguishing media:</b>	The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media:</b>	None known.

<b>Specific hazards arising from the chemical:</b>	Not combustible, but if involved in a fire decomposes to produce toxic gases.
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**Special protective equipment and precautions for firefighters**

<b>Special fire fighting procedures:</b>	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.
<b>Special protective equipment for fire-fighters:</b>	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**

<b>Personal precautions, protective equipment and emergency procedures:</b>	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.
<b>Methods and material for containment and cleaning up:</b>	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.
<b>Notification Procedures:</b>	Inform authorities if large amounts are involved.
<b>Environmental Precautions:</b>	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

## 7. Handling and storage

<b>Precautions for safe handling:</b>	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.
<b>Conditions for safe storage, including any incompatibilities:</b>	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	STEL	3 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	TWA	1 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Phosphoric acid	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Phosphoric acid	TWA	1 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
	STEL	3 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
Phosphoric acid	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Phosphoric acid	8 HR ACL	1 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	3 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Phosphoric acid	STEL	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

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)

**Appropriate Engineering Controls** No data available.

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

**General information:** 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.

**Eye/face protection:** Wear safety glasses with side shields (or goggles) and a face shield.

**Skin Protection**

**Hand Protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing and gloves.

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

**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)  
**Melting point/freezing point:** 21,1 °C  
**Initial boiling point and boiling range:** 158 °C  
**Flash Point:** Not applicable  
**Evaporation rate:** No data available.  
**Flammability (solid, gas):** This product is not flammable.

**Upper/lower limit on flammability or explosive limits**

**Flammability limit - upper (%):** No data available.  
**Flammability limit - lower (%):** No data available.  
**Explosive limit - upper (%):** No data available.  
**Explosive limit - lower (%):** No data available.

**Vapor pressure:** 0,3 kPa  
**Vapor density:** No data available.  
**Density:** 1,69 - 1,71 g/ml (20 °C)  
**Relative density:** 1,69 - 1,71 (20 °C)  
**Solubility(ies)**  
**Solubility in water:** Miscible

<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>	Contact with incompatible materials.
<b>Incompatible Materials:</b>	Strong alkalis. Strong reducing agents. Strong oxidizing agents.
<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>Skin Contact:</b>	Causes severe skin burns.
<b>Eye contact:</b>	Causes serious eye damage.
<b>Ingestion:</b>	Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.

### Information on toxicological effects

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

<b>Oral</b>	
<b>Product:</b>	ATEmix (Rat): 1.750 mg/kg
<b>Dermal</b>	
<b>Product:</b>	ATEmix (Rabbit): 3.044,44 mg/kg
<b>Inhalation</b>	
<b>Product:</b>	No data available.
<b>Specified substance(s):</b>	
Phosphoric acid	LC 50 (Guinea pig, Mouse, Rabbit, Rat): 193 - 1.689 mg/m <sup>3</sup>

<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.

<b>Skin Corrosion/Irritation</b>	
<b>Product:</b>	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.

**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

**ACGIH Carcinogen List:**

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.

<b>12. Ecological information</b>
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**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.

**Mobility in soil:**

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

**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 instructions:**

Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated Packaging:**

Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**TDG**

UN Number:	UN 1805
UN Proper Shipping Name:	PHOSPHORIC ACID SOLUTION
Transport Hazard Class(es)	
Class:	8
Label(s):	8
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Not determined.

**IMDG**

UN Number:	UN 1805
UN Proper Shipping Name:	PHOSPHORIC ACID SOLUTION
Transport Hazard Class(es)	
Class:	8
Label(s):	8
EmS No.:	F-A, S-B
Packing Group:	III
Marine Pollutant:	No



Special precautions for user: Keep away from alkalis.

**IATA**

UN Number:	UN 1805
UN Proper Shipping Name:	Phosphoric acid, solution
Transport Hazard Class(es):	
Class:	8
Label(s):	8
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Keep away from alkalis.
Cargo aircraft only:	Allowed.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

<b>15. Regulatory information</b>
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**Canada Federal Regulations**

**List of Toxic Substances (CEPA, Schedule 1)**

Not Regulated

**Export Control List (CEPA 1999, Schedule 3)**

Not Regulated

**National Pollutant Release Inventory (NPRI)**

**Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements**

NPRI PT5 Not Regulated

**Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)**

NPRI Not Regulated

**Greenhouse Gases**

Not Regulated

**Controlled Drugs and Substances Act**

CA CDSI	Not Regulated
CA CDSII	Not Regulated
CA CDSIII	Not Regulated
CA CDSIV	Not Regulated
CA CDSV	Not Regulated
CA CDSVII	Not Regulated
CA CDSVIII	Not Regulated

**Precursor Control Regulations**

Not Regulated

**International regulations**

**Montreal protocol**

Not applicable

**Stockholm convention**

Not applicable

**Rotterdam convention**

Not applicable

**Kyoto protocol**

Not applicable

**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

**16. Other information**

**Revision Date:** 05.11.2020

**Version #:** 2.0

**Source of information:** Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

**Further Information:** No data available.

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