



**SAFETY DATA SHEET**  
According to 29 CFR 1910.1200

**PHOSPHORIC ACID**

Date of issue: August 25, 2009 Revision date: September 01, 2023 Version: 5

**SECTION 1.- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1 Product identifier**

Product form Substance  
Substance name Phosphoric acid (all grades and types)  
CAS No. 7664-38-2  
Formula  $H_3PO_4$   
Synonyms Orthophosphoric acid or phosphoric (V) acid

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Use of the substance/mixture According to the technical sheet of the product.

**1.3 Details of the supplier of the safety data sheet**

Pima Chemicals & Fertilizers, LLC  
1370 Nogales, Az.  
Tel. 011 52 (662) 182-0559  
rgutierrez@qpima.com  
www.qpima.com

Química Pima, S.A. de C.V.  
Del Cobre 20, Parque Industrial Hermosillo.  
Hermosillo, Sonora, México. C.P. 83297  
Tel. 011 (662) 251-0010 ventas@qpima.com

**1.4 Emergency telephone number**

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

**SECTION 2.- HAZARD IDENTIFICATION**

**2.1. GHS-US classification**

Acute toxicity, oral 4 H302  
Skin corrosion/irritation 1A H314  
Serious eye damage/irritation 1 H318  
Specific target organ toxicity (single exposure); respiratory tract irritation 3 H335

**2.2. Label elements**

**GHS-US labelling**

**Hazard pictograms (GHS-US)**



**Signal word (GHS-US):**

Danger

**Hazard statement (GHS-US):**

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

**Precautionary statements (GHS-US):**

P260 Do not breathe dusts or mists.



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P261 Avoid breathing dust, fume, gas, mist, vapours or spray.  
 P264 Wash exposed skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P330 Rinse mouth.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower).  
 P363 Wash contaminated clothing before reuse.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P310 Immediately call a POISON CENTER/doctor.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P312 Call a POISON CENTER/doctor/physician if you feel unwell.  
 P405 Store locked up.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.  
 Toxic to aquatic organisms and plants.

### 2.3. Other hazards

### 2.4 Unknown acute toxicity (GHS-US)

Not applicable.

## SECTION 3.- COMPOSICION / INFORMATION OF INGREDIENTS

3.1 Mixture Not applicable

### 3.2 Substance

Name	Product identifier	%	GHS-US classification
Phosphoric acid	(CAS No.) 7664-38-2	72 – 85%	Acute Tox. oral 4; H302 Skin Irrit. 1A; H314 Eye Damage 1; H318 STOT-SE 3; H335

## SECTION 4.- FIRST AID MEASURE

### 4.1. Description of first air measure

**First-aid measures general** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

**First-aid measures after eye contact** Obtain medical attention immediately. Call a medical center. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Remove contact lenses if you use them and if they can be easily removed. Continue rinsing for at least 20 minutes. Chemical burns should be treated immediately by a doctor. Flushing the eyes in a matter of seconds is essential to achieve maximum effectiveness.

**First-aid measures after skin contact** Remove contaminated clothing and footwear immediately. Immediately wash the affected area with plenty of water for at least 15 minutes, repeating the washing operation if the irritation persists. Obtain medical attention immediately, as untreated cauterizations can become hard to heal. If the patient has to be transferred to a hospital center, continue with the washing during the journey. Never apply



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### First-aid measures after inhalation

creams or ointments. Wash contaminated clothing separately before reuse.

Remove the affected from the contaminated area, outdoors, warm, lying and resting. If you do not breathe, practice artificial respiration. If breathing is difficult, apply oxygen. Do not use the mouth-to-mouth method if the victim has ingested or inhaled the acid. Practice cardiopulmonary resuscitation if pulse or breathing is not detected. Obtain medical attention immediately. Keep the patient under observation since there is a risk of the appearance of pulmonary edema after exposure.

### First-aid measures after ingestion

If the affected person is conscious, have him rinse his mouth with water and give him to drink plenty of water (up to several liters) and keep him warm. Do not induce vomiting (risk of perforation!). Never try to neutralize the acid with weak bases (the exothermic reaction could extend the severity of the wound). If vomiting occurs spontaneously, keep the head tilted down and below the hips to prevent aspiration of the liquid, have it rinse the mouth and give it more water to drink. If you are unconscious or have seizures, lie down and keep in rest and warm. Never give anything by mouth to an unconscious or convulsing person. Obtain medical attention immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	Irritation of the nose and throat, bronchitis, pneumonia, abundant nasal discharge and bloody sputum.
Symptoms/injuries after skin contact	Causes severe burns.
Symptoms/injuries after eye contact	Causes serious eye damage.
Symptoms/injuries after ingestion	Burns in the mouth, throat, esophagus and stomach with severe pain and risk of perforation.
Chronic symptoms	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. Respiratory difficulties.

### 4.3. Indications of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5.- FIREFIGHTING MEASURES

### 5.1. Extinguishing media

Suitable extinguishing media	Adapt extinguishing media to the environment.
Unsuitable extinguishing media	Do not use water under pressure.

### 5.2. Special hazard arising from the substance or mixture

Fire hazard	DIRECT FIRE HAZARD. Noncombustible. INDIRECT FIRE HAZARD. Promotes combustion. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.
Reactivity	Under fire conditions this material can produce: phosphorus oxides; nitrogen oxides; phosphane.

### 5.3. Advice for firefighters

Precautionary measures fire	Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighborhood close doors and windows.
Firefighting instructions	Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray.
Protection during firefighting	Heat/fire exposure: compressed air/oxygen apparatus.



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### SECTION 6. - ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment

Gloves. Protective clothing. Vapor or spray cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.

Emergency procedures

Mark the danger area. Prevent vapor or spray formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

Measures in case of dust release

In case of vapor or spray production: keep upwind. Vapor or spray production: have neighborhood close doors and windows.

##### 6.1.2. For emergency responders

Protective equipment

Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection"

Emergency procedures

Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment. Do not allow product to spread into the environment. Do not discharge into drains or rivers

#### 6.3. Methods and material for containment and cleaning up.

Method for containment

Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute vapor cloud with water spray. If reacting: dilute toxic gas/vapor with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up

Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information

Dispose of materials or solid residues at an authorized site.

#### 6.4 Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection.

### SECTION 7.- HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

**Precautions for safe handling**

Avoid all unnecessary exposure. Handle in accordance with good hygiene and industrial safety practices. Keep sources of ignition away from the storage of phosphoric acid and handling and transport equipment. Keep the operating and storage rooms adequately ventilated, keeping the environmental limit values below the limits described in point 8. Do not smoke, eat or drink when handling the product. Before handling the product, make sure that the container to be used is clean and suitable. Do not return product to the storage tank or other containers. The samples will be handled in suitable containers. Keep special precautions in case there are remnants of incompatible products. Avoid contact with powdered metals, reducers and organic matter. NEVER pour water on acid. The dilution of the product will be carried out by slowly pouring acid over water and stirring the mixture. Handle the product in a place with pavements resistant to the action of acid. Have hoses to wash leaks. It must have showers and eyewash safety, next to the places of handling. The drains of storage tanks should go to neutralization stations. In case of repairs of tanks or pipes, the concentration of hydrogen will be measured beforehand.

All containers containing phosphoric acid will have labels that identify the product unequivocally and warn of the risks of their handling. Take precautionary measures against static discharge.



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### 7.2. Conditions for safe storage, including any incompatibilities

<b>Storage conditions</b>	Keep only in the original container in a cool, well-ventilated place away from incompatible materials. Keep container closed when not in use.
<b>Incompatible products</b>	KEEP SUBSTANCE AWAY FROM: combustible materials. Reducing agents. Keep away from bases or alkalis and metals. Organic materials.
<b>Heat-ignition</b>	KEEP SUBSTANCE AWAY FROM: heat sources.
<b>Storage area</b>	Store in a dry area. Store at room temperature. Keep container in a well-ventilated place. Meet the legal requirements.
<b>Special rules on packaging</b>	SPECIAL REQUIREMENTS: closing. Dry. Correctly labelled. Meet the legal requirements. Secure fragile packaging in solid containers.
<b>Packaging materials</b>	Appropriate packing material: the one supplied by the manufacturer. Stainless steel, glass or HDPE.
<b>7.3 Specific end use(s)</b>	No additional information available.

### SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters

Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phosphoric acid 7664-38-2	TWA: 1.0 mg/m <sup>3</sup> 8 hours STEL: 3 mg/m <sup>3</sup> 15 minutes	TWA: 1 mg/m <sup>3</sup> 8 hours STEL: 3 mg/m <sup>3</sup> 15 minutes	IDLH: 1000 mg/m <sup>3</sup>

#### 8.2. Exposure controls

<b>Appropriate engineering controls</b>	Ensure good ventilation of the work station. Extraction to remove dust at its source. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
<b>Personal protective equipment</b>	Vapor production: vapor mask with 3M 6003 organic vapor/acid gas cartridge. Gloves. Safety glasses.
<b>Material for protective clothing</b>	GIVE GOOD RESISTANCE: nitrile, neoprene or PVC. GIVE POOR RESISTANCE: natural fibers.
<b>Hand protection</b>	Gloves. Recommended: nitrile, neoprene or PVC.
<b>Eye protection</b>	Safety glasses. In case of vapor production: protective goggles.
<b>Skin and body protection</b>	Protective clothing. Recommended: Tychem SL, Tychem F, Tychem ThermoPro, Tychem TK or equivalent.
<b>Respiratory protection</b>	Vapor production: vapor mask with 3M 6003 organic vapor/acid gas cartridge
<b>Environmental exposure controls</b>	Avoid release to the environment.

### SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<b>Physical state:</b>	Liquid.	<b>Appearance:</b>	Liquid.
<b>Odor:</b>	Odorless.	<b>Color:</b>	Colorless to bluish green.
<b>Molecular mass</b>			98 g/mol
<b>Odor threshold</b>			No data available.
<b>pH</b>			<1.0
<b>pH solution</b>			No data available.
<b>Relative evaporation rate (butyl acetate=1)</b>			No data available.



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<b>Melting point/Freezing point</b>	-17.5°C (0.5°F)
<b>Boiling point</b>	133°C (271.4°F)
<b>Flash point</b>	Not applicable.
<b>Self-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	No data available.
<b>Flammability (solid, gas)</b>	No data available.
<b>Vapor pressure</b>	2 – 4 mmHg
<b>Relative vapor density at 20°C</b>	3.38
<b>Relative density at 20°C</b>	1.57 – 1.69
<b>Solubility</b>	Soluble in water: 548 g/100 g
<b>Log Pow</b>	Not applicable (inorganic substance).
<b>Log Kow</b>	No data available.
<b>Viscosity, kinematic</b>	33 - 44 cP a 20°C
<b>Viscosity, dynamic</b>	No data available.
<b>Explosive properties</b>	No data available.
<b>Oxidizing properties</b>	No data available.
<b>Explosive limits</b>	No data available.

**9.2 Other information** No additional information available.

### SECTION 10.- STABILITY AND REACTIVITY

<b>10.1 Reactivity</b>	The material is hygroscopic. Acid liquids, like this material, can react with metals and release hydrogen gas. Corrosive for metals.
<b>10.2 Chemical stability</b>	The material is stable under normal environmental conditions and under predictable temperature and pressure conditions during storage and handling.
<b>10.3 Possibility of hazardous reactions</b>	Strong reactions with alkalis.
<b>10.4 Conditions to avoid</b>	Protect from moisture. Avoid high temperatures.
<b>10.5 Incompatible materials</b>	Avoid contact with bases, aluminum, copper, tempered steel, brass, and bronze.
<b>10.6 Hazardous decomposition products</b>	Under fire conditions this material can produce: phosphorus oxides; phosphane; nitrogen oxides.

### SECTION 11.-TOXICOLOGICAL INFORMATION

#### 11. 1. Information on toxicological effects

Likely routes of exposure	Skin and eyes contact; inhalation; ingestion.
Acute toxicity	Not classified.

Name	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub> inhalation
Phosphoric acid	1530 mg/kg (rat)	2740 mg/kg (rabbit)	-



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Skin corrosion/irritation	Causes severe burns.
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target toxicity (single exposure)	May cause respiratory irritation.
Specific target toxicity (repeat exposure)	Not classified.
Aspiration hazard	Not classified.

**SECTION 12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

This material can be dangerous to the aquatic environment.

LC<sub>50</sub> (96 h, *Oryzias latipes*): 75.1mg / l; EC<sub>50</sub> (48 h, *Daphnia magna*):> 100mg / l; EC<sub>50</sub> (72 h, *Desmodesmus subspicatus*):> 100mg / l; IC<sub>50</sub> (bacteria): 270mg / l

**12.2 Persistence and degradability**

Easily biodegradable It can produce eutrophication by supplying phosphates.

**12.3 Bioaccumulative potential**

It is enriched in organisms insignificantly.

**12.4 Mobility in soil**

No data available.

**12.5 Other adverse effects**

**Other information** Inorganic phosphates have the potential to increase the growth of freshwater algae, and their possible death will reduce the oxygen available for aquatic life.

**SECTION 13.- DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

Waste treatment methods	Dispose of in accordance with relevant local regulations. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Precipitate/make insoluble. Remove to an authorized dump (Class I). Do not discharge into surface water.
Waste disposal recommendations	

**SECTION 14.- TRANSPORT INFORMATION**

<b>14.1. UN number</b>	1805
<b>14.2. UN proper shipping name</b>	Phosphoric acid solution
<b>14.3. Additional information</b>	
Other information	No supplementary information available.
Overland transport	No additional information available.





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Transport by sea  
Air transport

No additional information available.  
No additional information available.

**SECTION 15.- REGULATORY INFORMATION**

**15.1 US Federal regulations**

**Phosphoric acid**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

RQ (Reportable quantity, section 304 of EPA's List of Lists)	500 lb
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**15.2 International regulations**

**CANADA**

**Phosphoric acid**

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Class E – Corrosive material.
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**EU-Regulations**

**Phosphoric acid**

No additional information available.

**15.2.2. National regulations**

**Phosphoric acid**

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

**SECTION 16.- OTHER INFORMATION**

<b>NFPA</b>	NFPA health hazard	3	NFPA fire hazard	0	NFPA instability hazard	0	NFPA Special hazard	-
<b>HMIS III</b>	Health	3	Flammability	0	Physical	0	Personal Protection	H

**G** Splash goggles, Gloves, Synthetic apron, Vapor respirator



**Made for:** Quimica Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

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May 28, 2018 4.1 rev. Section 2 and section 16 were modified.

September 01, 2023 5 rev. Syntax and spelling improvements and corrections were made.

*IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and apply to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.*

End of Safety Data Sheet