

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form	: Substance
Substance name	: Phosphoric Acid 70-85%
Chemical name	: Phosphoric Acid
CAS No	: 7664-38-2
Formula	: H3PO4
Synonyms	: orthophosphoric acid, conc=75%, aqueous solution / phosphoric acid / Phosphoric acid, solution
BIG no	: 21977

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

Use of the substance/mixture : Food industry: additive

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

Two Rivers Terminal  
3300 North Glade Road  
Pasco, Wa. 99302 - USA  
T 509-547-7776 - F 509-546-9508  
[www.tworiversterminal.com](http://www.tworiversterminal.com)

**1.4. Emergency telephone number**

Emergency number : 24 Hour Emergency HAZMAT Response: (800) 229-5252; EPA National Response Center (800) 424-8802

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GHS-US classification**

Skin Corr. 1B H314

Full text of H-phrases: see section 16

**2.2. Label elements****GHS-US labelling**

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

P260 - Do not breathe mist, spray  
P264 - Wash hands, forearms and face thoroughly after handling  
P280 - Wear eye protection, protective gloves, protective clothing  
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/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a doctor, a POISON CENTER  
P321 - Specific treatment (see a doctor, eye protection on this label)  
P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P501 - Dispose of contents/container to an approved waste disposal plant, hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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### 2.3. Other hazards

No additional information available

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

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : Phosphoric Acid 70-85%

CAS No : 7664-38-2

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
- First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Immediately consult a doctor/medical service. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Do not give chemical antidote. Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

- Symptoms/injuries after inhalation : Coughing. Dry/sore throat. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Risk of lung oedema.
- Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin. Burns.
- Symptoms/injuries after eye contact : Corrosion of the eye tissue. Serious damage to eyes.
- Symptoms/injuries after ingestion : Burns to the gastric/intestinal mucosa. Nausea. Abdominal pain. Blood in vomit. AFTER ABSORPTION OF HIGH QUANTITIES: Shock. Burns.
- Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Red skin.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : EXTINGUISHING MEDIA FOR SURROUNDING FIRES: Adapt extinguishing media to the environment. Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : No unsuitable extinguishing media known.

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

- Fire hazard : DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".
- Explosion hazard : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

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Reactivity : Reacts on exposure to temperature rise with (some) metals: release of highly flammable gases/vapours (hydrogen). On burning: release of toxic and corrosive gases/vapours (phosphorus oxides). Violent to explosive reaction with many compounds e.g.: with (strong) oxidizers. And with (some) bases.

### 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 neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Corrosion-proof suit. Large spills/in enclosed spaces: compressed air apparatus. Large spills/in enclosed spaces: gas-tight suit. See "Material-Handling" to select protective clothing.

Emergency procedures : Ventilate spillage area. Mark the danger area. No naked flames. Wash contaminated clothes. Large spills/in confined spaces: consider evacuation. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. Avoid contact with skin and eyes. Do not breathe {0}message=<specify applicable conditions>|default=dust/fume/gas/mist/vapours/spray|filter=(\_)?INHAL\_CONDITION\_+}.

#### 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".

### 6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

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

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain. Take account of toxic/corrosive precipitation water. Heat exposure: dilute toxic gas/vapour with water spray.

Methods for cleaning up : Take up liquid spill into absorbent material. Take up liquid spill into inert absorbent material, e.g.: sand/earth. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Neutralize leftovers with slaked lime or soda ash. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. 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 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage temperature : > -20 °C

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Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: (strong) bases. oxidizing agents.
Storage area	: Store in a dark area. Keep locked up. Provide for a tub to collect spills. Unauthorized persons are not admitted. Meet the legal requirements.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: stainless steel. synthetic material. steel with rubber inner lining.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Phosphoric Acid 70-85% (7664-38-2)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
OSHA	Not applicable	

### 8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Materials for protective clothing	: GIVE GOOD RESISTANCE: butyl rubber. natural rubber. neoprene. nitrile rubber. polyethylene. PVC. viton. GIVE POOR RESISTANCE: PVA.
Hand protection	: Gloves.
Eye protection	: Face shield. Safety glasses.
Skin and body protection	: Corrosion-proof clothing.
Respiratory protection	: Wear gas mask with filter type B if conc. in air > exposure limit.
Environmental exposure controls	: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Colourless
Odour	: Odourless
Odour threshold	: No data available
pH	: 1
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 135 °C
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: 6.5 hPa
Relative density	: 1.52 - 1.6
Relative vapour density at 20 °C	: 3.4
Density	: 1573 kg/m <sup>3</sup>
Molecular mass	: 98.00 g/mol
Solubility	: Water: Complete
Log Pow	: -0.77 (Estimated value)
Log Kow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available

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Viscosity : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : 0.015 Pa.s (20 °C)

### 9.2. Other information

Minimum ignition energy : Not applicable  
VOC content : Not applicable  
Other properties : Clear. Substance has acid reaction.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts on exposure to temperature rise with (some) metals: release of highly flammable gases/vapours (hydrogen). On burning: release of toxic and corrosive gases/vapours (phosphorus oxides). Violent to explosive reaction with many compounds e.g.: with (strong) oxidizers. And with (some) bases.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Phosphoric Acid 70-85% (7664-38-2)	
LD50 oral rat	4400 mg/kg (Rat)
LD50 dermal rabbit	2470 mg/kg
LC50 inhalation rat (ppm)	100 ppm
ATE US (oral)	4400.000 mg/kg bodyweight
ATE US (dermal)	2470.000 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
pH: 1

Serious eye damage/irritation : Not classified  
pH: 1

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Coughing. Dry/sore throat. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Risk of lung oedema.

Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin. Burns.

Symptoms/injuries after eye contact : Corrosion of the eye tissue. Serious damage to eyes.

Symptoms/injuries after ingestion : Burns to the gastric/intestinal mucosa. Nausea. Abdominal pain. Blood in vomit. AFTER ABSORPTION OF HIGH QUANTITIES: Shock. Burns.

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Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Red skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Air pollutant.  
Ecology - water : Mild water pollutant (surface water). Slightly harmful to fishes. May cause eutrophication. Toxic to plankton. Slightly harmful to bacteria. Slightly harmful to aquatic organisms. pH shift.

Phosphoric Acid 70-85% (7664-38-2)	
LC50 fish 1	138 mg/l (96 h; Pisces; Pure substance)
LC50 other aquatic organisms 1	240 mg/l (96 h; Protozoa; Pure substance)
LC50 fish 2	100 - 1000 mg/l (Pisces; Pure substance)
LC50 other aquatic organisms 2	100 - 1000 mg/l (Pure substance)
TLM fish 1	138 ppm (24 h; Gambusia affinis; Pure substance)
Threshold limit other aquatic organisms 1	240 mg/l (96 h; Protozoa; Pure substance)
Threshold limit other aquatic organisms 2	100 - 1000, Pure substance

#### 12.2. Persistence and degradability

Phosphoric Acid 70-85% (7664-38-2)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

#### 12.3. Bioaccumulative potential

Phosphoric Acid 70-85% (7664-38-2)	
Log Pow	-0.77 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : 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. Recycle/reuse. Remove for physico-chemical/biological treatment.

Additional information : LWCA (the Netherlands): KGA category 01. Hazardous waste according to Directive 2008/98/EC.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1805 Phosphoric acid solution, 8, III

UN-No.(DOT) : UN1805

Proper Shipping Name (DOT) : Phosphoric acid solution

Hazard Classes (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : III - Minor Danger

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Special Provisions (49 CFR 172.102) : A7 - Steel packagings must be corrosion-resistant or have protection against corrosion.  
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / (1 + a (tr - tf))$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### Additional information

Other information : No supplementary information available.

### ADR

Transport document description : UN 1805 Phosphoric acid, solution, 8, III, (E)

Packing group (ADR) : III

Class (ADR) : 8 - Corrosive substances

Hazard identification number (Kemler No.) : 80

Classification code (ADR) : C1

Danger labels (ADR) : 8 - Corrosive substances



Orange plates : Two orange rectangular plates with black borders. The top plate has the number '80' in black, and the bottom plate has the number '1805' in black.

Tunnel restriction code (ADR) : E

### Transport by sea

UN-No. (IMDG) : 1805

Proper Shipping Name (IMDG) : PHOSPHORIC ACID SOLUTION

Class (IMDG) : 8 - Corrosive substances

Packing group (IMDG) : III - substances presenting low danger

EmS-No. (1) : F-A

EmS-No. (2) : S-B

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### Air transport

UN-No.(IATA)	: 1805
Proper Shipping Name (IATA)	: PHOSPHORIC ACID, SOLUTION
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Phosphoric Acid 70-85% (7664-38-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Not listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
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### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Corr. 1B H314

Full text of H-phrases: see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

C; R34

Full text of R-phrases: see section 16

#### National regulations

No additional information available

### 15.3. US State regulations

#### Phosphoric Acid 70-85%(7664-38-2)

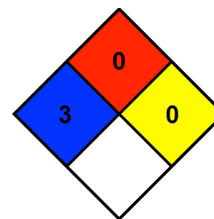
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
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## SECTION 16: Other information

Full text of H-phrases:

Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H314	Causes severe skin burns and eye damage

NFPA health hazard	: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
NFPA fire hazard	: 0 - Materials that will not burn.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

All information contained in this Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you, and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee is expressed or implied as to the results to be obtained based upon your use of the information.