

# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Phosphoric Acid  
Product code : M77713

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

No additional information available

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

JR Simplot Company  
P.O. Box 70013  
Boise, ID 83707  
T 1-208-336-2110

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Met. Corr. 1 H290 - May be corrosive to metals  
Acute Tox. 4 (Dermal) H312 - Harmful in contact with skin  
Skin Corr. 1A H314 - Causes severe skin burns and eye damage

Full text of H-statements: see section 16

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H290 - May be corrosive to metals  
H312 - Harmful in contact with skin  
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

P234 - Keep only in original container  
P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
P264 - Wash ... thoroughly after handling  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P302+P352 - If on skin: Wash with plenty of water/...  
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 poison center/doctor/...  
P312 - Call a poison center/doctor/... if you feel unwell  
P321 - Specific treatment (see ... on this label)  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P363 - Wash contaminated clothing before reuse  
P390 - Absorb spillage to prevent material damage  
P405 - Store locked up  
P406 - Store in corrosive resistant/... container with a resistant inner liner  
P501 - Dispose of contents/container to ...

#### 2.3. Other hazards

No additional information available

# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
phosphoric acid (7664-38-2)	(CAS No) 7664-38-2		Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314
Proprietary			Not classified

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after skin contact	: Immediately call a POISON CENTER or doctor/physician. Specific measures (see ... on this label). Wash with plenty of soap and water. Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/injuries	: Causes severe skin burns and eye damage.
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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

Reactivity	: Thermal decomposition generates : Corrosive vapours.
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### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Absorb spillage to prevent material damage.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : May be corrosive to metals.  
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing.  
Hygiene measures : Wash ... thoroughly after handling.

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

Technical measures : Comply with applicable regulations.  
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.  
Incompatible products : Strong bases. Strong acids.  
Incompatible materials : Sources of ignition. Direct sunlight.  
Packaging materials : Store in corrosive resistant/... container with a resistant inner liner.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

phosphoric acid (7664-38-2) (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>

### 8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : Wear protective gloves.  
Eye protection : Chemical goggles or face shield.  
Skin and body protection : Wear suitable protective clothing.  
Respiratory protection : Wear appropriate mask.  
Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state : Liquid  
Colour : Colourless  
Odour : characteristic  
Odour threshold : No data available  
pH : <= 1  
Melting point : No data available  
Freezing point : <= 0 °C  
Boiling point : >= 100 °C  
Flash point : No data available  
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

# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Density	: $\geq 1.58$ g/ml
Solubility	: Soluble in water. Water: $\geq 1.58$ g/ml
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

VOC content :  $\leq 10$  g/l

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases. metals. May be corrosive to metals.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Dermal: Harmful in contact with skin.

Phosphoric Acid	
ATE US (dermal)	1466.667 mg/kg bodyweight
phosphoric acid (7664-38-2) (7664-38-2)	
LD50 oral rat	1530 mg/kg (Rat)
LD50 dermal rat	$\geq 1260$ mg/kg bodyweight
LC50 inhalation rat (mg/l)	$\geq$ mg/l/4h
ATE US (oral)	1530.000 mg/kg bodyweight
ATE US (dermal)	1100.000 mg/kg bodyweight

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

Serious eye damage/irritation : Not classified  
pH:  $\leq 1$

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

# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful in contact with skin.
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

phosphoric acid (7664-38-2) (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	
Persistence and degradability	Not established.
Proprietary	
Persistence and degradability	Not established.
phosphoric acid (7664-38-2) (7664-38-2)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the components available. Not established.
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	
Bioaccumulative potential	Not established.
Proprietary	
Bioaccumulative potential	Not established.
phosphoric acid (7664-38-2) (7664-38-2)	
Log Pow	-0.77 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

#### 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.
Other information	: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ...
Ecology - waste materials	: Avoid release to the environment.

# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 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

Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

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.

Other information : No supplementary information available.

#### TDG

No additional information available

#### 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

#### 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

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Proprietary	CAS No	%
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# Phosphoric Acid

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### phosphoric acid (7664-38-2) (7664-38-2)

Not subject to reporting requirements of the United States SARA Section 313

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

#### National regulations

No additional information available

### 15.3. US State regulations

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

### phosphoric acid (7664-38-2) (7664-38-2)

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

## SECTION 16: Other information

Other information : None.

Full text of H-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H290	May be corrosive to metals
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage

SDS US (GHS HazCom 2012)

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