



# SAFETY DATA SHEET

## 1. Identification

Product identifier	Phosphoric Acid 85%
Other means of identification	
Product code	-
Recommended use	Industrial use.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer/Supplier	KMG Electronic Chemicals, Inc.
Address	9555 W. Sam Houston Parkway South Suite 600 Houston Texas 77099 US
Phone number	713-600-3800
Emergency telephone	
3E Emergency Services	+1 866-706-3266 Access code: 333035

## 2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 1
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, repeated exposure	Category 1
OSHA defined hazards	Not classified.	

### Label elements



Signal word	Danger
Hazard statement	May be corrosive to metals. Harmful if swallowed. Fatal if inhaled. Causes severe skin burns and eye damage. Causes damage to organs (Lung) through prolonged or repeated exposure.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): 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 person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. Absorb spillage to prevent material damage.
Storage	Store in corrosive resistant container with a resistant inner liner. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Not classified.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Phosphoric acid	7664-38-2	85

Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
----------------------	--

## 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention immediately.
<b>Skin contact</b>	Flush thoroughly with water for at least 15 minutes. Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention immediately. Chemical burns must be treated by a physician.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
<b>Ingestion</b>	Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention.
<b>Most important symptoms/effects, acute and delayed</b>	Causes skin and eye burns.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of shortness of breath, give oxygen. Keep victim warm.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	No restrictions known.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases. Contact with most metals causes formation of flammable and explosive hydrogen gas.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire-fighting equipment/instructions</b>	Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out. In case of fire and/or explosion do not breathe fumes. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Stay upwind. Keep out of low areas. Ensure adequate ventilation. Avoid any exposure. Use personal protection as recommended in Section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	<p>Should not be released into the environment.</p> <p>Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.</p> <p>Small Spills: Absorb spill with vermiculite or other inert material. Clean contaminated surface thoroughly. After removal flush contaminated area thoroughly with water.</p> <p>Never return spills in original containers for re-use.</p>
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Handle and open container with care. Use only with adequate ventilation. Avoid any exposure. Wash thoroughly after handling.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep in a well-ventilated place. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep this material away from food, drink and animal feed. Use care in handling/storage.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### U.S. - OSHA

Material	Type	Value
Phosphoric Acid 85% (CAS 7664-38-2)	PEL	35 mg/m3
		50 ppm

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	PEL	1 mg/m3

**US. ACGIH Threshold Limit Values**

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3

**U.S. - NIOSH**

Material	Type	Value
Phosphoric Acid 85% (CAS 7664-38-2)	REL	18 mg/m3
	STEL	25 ppm 27 mg/m3 35 ppm

**US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)**

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	TWA	1 mg/m3

**US NIOSH Pocket Guide to Chemical Hazards: Short Term Exposure Limit (STEL)**

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Exposure guidelines</b>	Follow standard monitoring procedures.
<b>Appropriate engineering controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear approved safety glasses or goggles.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
<b>Other</b>	Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves. Protective shoes or boots. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Wear chemical protective equipment that is specifically recommended by the Personal Protective Equipment manufacturer.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Remove and isolate contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. Launder contaminated clothing before reuse.

**9. Physical and chemical properties**

<b>Appearance</b>	Colorless liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Viscous. Liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Odorless.

Odor threshold	Not available.
pH	1
Initial boiling point and boiling range	294.8 °F (146 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
<b>Upper/lower flammability or explosive limits</b>	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.03 mmHg
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Completely soluble in water.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
<b>Other information</b>	
Density	1.63 g/cm3

## 10. Stability and reactivity

Reactivity	The product reacts with: Metal oxides. Strong alkalis.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Reacts with most metals to form flammable hydrogen gas.
Conditions to avoid	Heat.
Incompatible materials	Incompatible with bases. This product may react with reducing agents. Strong oxidizing agents. Strong alkalis. Cyanides. Sulfides. Metals.
Hazardous decomposition products	May include oxides of phosphorus. Contact with metals may evolve flammable hydrogen gas.

## 11. Toxicological information

### Information on likely routes of exposure

Ingestion	Causes digestive tract burns. May cause burns of the gastrointestinal tract if swallowed. May be harmful if swallowed.
Inhalation	Causes severe respiratory tract irritation. ( Aerosol. )
Skin contact	Causes severe skin burns. Causes permanent skin damage (scarring).
Eye contact	Causes severe eye burns. Causes permanent eye injury.
Symptoms related to the physical, chemical and toxicological characteristics	Permanent eye damage including blindness could result. Shortness of breath. Cough. Sore throat.

### Information on toxicological effects

Acute toxicity	May be fatal if inhaled. Harmful if swallowed.
----------------	--

Components	Species	Test Results
Phosphoric acid (CAS 7664-38-2)		
Acute		
Dermal		
LD50	Rabbit	2740 mg/kg

Components	Species	Test Results
Oral LD50	Rat	1530 mg/kg
<b>Skin corrosion/irritation</b>	Causes severe skin burns. Causes permanent skin damage (scarring).	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage. Causes permanent eye injury.	
<b>Respiratory sensitization</b>	Not classified.	
<b>Skin sensitization</b>	Not a skin sensitizer.	
<b>Germ cell mutagenicity</b>	Not classified.	
<b>Carcinogenicity</b>	Not classified.	
<b>Reproductive toxicity</b>	Not classified.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to the following organs through prolonged or repeated exposure: Lungs.	
<b>Aspiration hazard</b>	Not classified.	
<b>Chronic effects</b>	May cause lung damage. Symptoms may be delayed.	
<b>Further information</b>	No data available.	

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulative potential</b>	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>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] Waste codes should be assigned by the user based on the application for which the product was used.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

<b>UN number</b>	UN1805
<b>UN proper shipping name</b>	Phosphoric acid solution
<b>Transport hazard class(es)</b>	8
<b>Subsidiary class(es)</b>	-
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	A7, IB3, N34, T4, TP1
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241
<b>ERG number</b>	154

### IATA

<b>UN number</b>	UN1805
<b>UN proper shipping name</b>	PHOSPHORIC ACID, SOLUTION
<b>Transport hazard class(es)</b>	8
<b>Subsidiary class(es)</b>	-
<b>Packaging group</b>	III
<b>Environmental hazards</b>	No

<b>Labels required</b>	8
<b>ERG Code</b>	8L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>IMDG</b>	
<b>UN number</b>	UN1805
<b>UN proper shipping name</b>	PHOSPHORIC ACID SOLUTION
<b>Transport hazard class(es)</b>	8
<b>Subsidiary class(es)</b>	-
<b>Packaging group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No
<b>Labels required</b>	8
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

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

Not listed.

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

Phosphoric acid (CAS 7664-38-2) LISTED

### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - Yes

**SARA 302 Extremely hazardous substance** No

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**  
Not regulated.

### **Other federal regulations**

#### **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

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

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**US state regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

#### **US. Massachusetts RTK - Substance List**

Phosphoric acid (CAS 7664-38-2)

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

Not regulated.

#### **US. Pennsylvania RTK - Hazardous Substances**

Phosphoric acid (CAS 7664-38-2)

#### **US. Rhode Island RTK**

Phosphoric acid (CAS 7664-38-2)

**US. California Proposition 65****US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

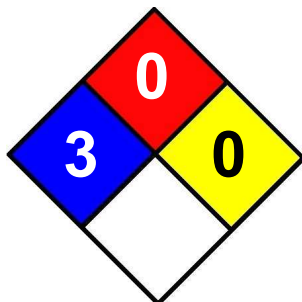
Not listed.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 12-November-2013**Revision date** -**Version #** 01**Further information** The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.**NFPA Ratings****Disclaimer**

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.