



# Material Safety Data Sheet

Product Name	PHOSPHORIC ACID 85%, Solution
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## 1. Product and Company Identification

Product Name	PHOSPHORIC ACID 85%
Synonym	Ortho-phosphoric Acid
Manufacturer information	
Manufacturer name	KWANGJIN CHEMICAL Co., Ltd.
Address	1Da 306Ho, Sihwa Industrial Complex, Jeongwang-Dong, Siheung-City, Gyeonggi-Do, Korea
Emergency Phone Number	+82-31-498-4555

## 2. Hazards Identification

Classification of the substance	Corrosive to Metals : Category 1 Acute toxicity (oral) : Category 4 Skin corrosion / Irritation : Category 1 Eye Damage / Irritation : Category 1 Specific target organ toxicity (single exposure) : Category 3
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label elements, including precautionary statements

Pictogram and symbol



Signal word	Danger
Hazard statements	H290 May be corrosive to metals. H302 Harmful if swallowed H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.
Precautionary statements	
Precaution	P234: Keep only in original container P260: Do not breathe dust/fume/gas/mist/vapours/spray. P261: Do not breathe dust/fume/gas/mist/vapours/spray. P264: Wash thoroughly after handling. P270: Do not eat, drink or smoke when using this product.
Treatment	P301+P312 If swallowed: Call a poison center or doctor/physician if you feel unwell. P301+P330+P331 If swallowed: Rinse mouth. Do not induce vomiting. P302+P350 If on skin: Rinse skin with water/shower. P303+P361+P353 If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 If inhaled: Remove victim to fresh air and keep at rest in a position 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 or doctor/physician. P321 Specific treatment (see ... on this label). P330 Rinse mouth.



Storage	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.
Disposal	P501: Dispose of contents/container to in accordance with local/regional/national/international regulations.
Hazard Ratings (NFPA)	
Health Hazard	3
Fire Hazard	0
Reactivity Hazard	0

### 3. Composition and Information on Ingredients

Chemical Name	Common Name Synonyms	CAS Number	Content (%)
PHOSPHORIC ACID	PHOSPHORIC ACID (H <sub>3</sub> PO <sub>4</sub> )	7664-38-2	85%
Total			

### 4. First aid measures

Eye contact	In case of contact with substance, immediately flush eyes with running water for more than 15 minutes. Get medical attention immediately
Skin contact	Removing contaminated clothing and shoes. In case of contact with substance, immediately flush skin with running water for more than 15 minutes. Get medical attention immediately
Inhalation	Get medical attention immediately if irritation and symptoms persist. Move victim to fresh air.
Ingestion	Do NOT induce vomiting. If swallowed, immediately call a POISON CENTER or doctor/physician
General advice	In the case of accident or if you feel unwell, seek medical advice immediately. Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Firefighting measures

Suitable (and unsuitable) extinguishing media	
Suitable extinguishing media	water, Carbon dioxide(CO <sub>2</sub> ), Dry chemical powder
Unsuitable extinguishing media	Not available
In case of major fire and large quantities	Dry chemical, CO <sub>2</sub> , water
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases
Special protective equipment and precautions for fire-fighters	
	Move containers from fire area if you can do it without risk. Cool containers for quite a long time until well after fire is out. Wear full protective clothing, including helmet, self-contained positive pressure or demand breathing apparatus, protective clothing and face mask, Wear self-contained breathing apparatus with a full face piece operatde in the positive pressure demand mode when fighting fires.

### 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	For minor skin contact, avoid spreading material on unaffected skin. Stop leak if you can do it without risk
Environmental precautions and protective procedures	
Atmosphere	For minor skin contact, avoid spreading material on unaffected skin. Stop leak if you can do it without risk



Land	Move spreading material in isolated space (puddle, sandbag, barrier). Absorb with non-combustible material.
Underwater	Move container to safe place Absorb with non-combustible material.
The methods of purification and removal	
Small spill	Absorb with non-combustible material. Isolate exposed area. Keep unauthorized personnel away. When spilled over limited quantities, inform central government and local self-government. -Place into containers for later disposal.
Large spill	Not available

## 7. Handling and storage

Precautions for safe handling	Avoid breathing vapors/mists Use adequate ventilation Wear personal protective equipment appropriate to task Wash thoroughly after handling Avoid contact with skin, eyes and clothing
Conditions for safe storage	Store away from incompatible materials. Store in original container. Store in a cool, dry and well ventilated area.

## 8. Exposure controls/personal protection

Occupational Exposure limits	
Korean Occupation of Safety	TWA - 1mg/m <sup>3</sup> , STEL - 3mg/m <sup>3</sup>
ACGIH	TWA 1 mg/m <sup>3</sup> STEL 3 mg/m <sup>3</sup>
Biological exposure index	Not available
Appropriate engineering controls	Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Check legal suitability of exposure level.
Personal protective equipment	
Respiratory protection	Wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment.
Eye/Face protection	Wear facepiece with goggles to protect from scattering toxic substance. An eye wash unit and safety shower station should be available nearby work place.
Hand protection	Wear chemical resistant gloves.
Body protection	Wear appropriate protective chemical-resistant clothing.

## 9. Physical and chemical properties

Appearance	Liquid (colorless)
Odor	Odorless
Odor threshold	Not available
pH	1.5 (0.1 N aqueous solution)
Melting point/freezing point	42°C / 21°C
Initial boiling point and boiling range	158°C
Flash point	Not available
Evaporation rate	Not available
Flammability	Inflammable
Upper/lower flammability or explosive limits:	Not available
Vapor pressure	2.2 pa (20°C)



Solubility	solubility
Vapor density	3.4 (Air=1)
Specific gravity	1.695 (18°C)
Partition coefficient: n-octanol/water:	Not available
Auto ignition temperature	Not available
Decomposition temperature	213°C
Viscosity	28 cP (20°C)
Molecular weight:	98

## 10. Stability and reactivity

Chemical stability	It may occur exothermic reaction, if it contact with water
Possibility of hazardous reactions	Azo compound, Epoxide : violent polymerization reaction
Conditions to avoid	Avoid heat, sparks, flames and other sources of ignition May ignite or explode contact with combustibles
Incompatible materials	Liberates explosive hydrogen gas when reacting with chlorides and stainless steel. Can react violently with sodium tetrahydroborate. Exothermic reactions with aldehydes, amines, amides, alcohols and glycols, azo-compounds, carbamates, esters, caustics, phenols and cresols, ketones, organophosphates, epoxides, explosives, combustible materials, unsaturated halides, and organic peroxides. phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. It also forms toxic fumes with cyanides, sulfide, fluorides, organic peroxides, and halogenated organics. Mixtures with nitromethane are explosive.
Hazardous decomposition products	Phosphorus oxide

## 11. Toxicological information

Information on the likely routes of exposure	Not available
Symptoms related to the physical, chemical and toxicological characteristics	
Acute toxicity	
oral	LD50 1530 mg/kg Rat (3)
dermal	LD50 1.260 mg/kg Rabbit (5)
Inhalation	LC50 1.680 mg/l 4 hr Rabbit (3)
Skin Corrosion/ Irritation	It is irritating to human skin and causes severe corrosion. It caused corrosion on pig skin and severe necrosis on rabbit skin.
Serious Eye Damage/ Irritation:	Severe and serious hazard were caused to human's eye.
Respiratory sensitizer	Not available
Skin Sensitization	Not available
Carcinogenic effects	Not available
Mutagenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Contains material which causes damage to the following organs : upper respiratory tract, skin, eye, lens or cornea
Specific target organ toxicity (repeat exposure)	Not available
Aspiration Hazard	Not available

## 12. Ecological information

Aquatic Ecotoxicity	
Fish	LC50 75.1 mg/l 96 hr Oryzias latipes 96hr (5)
Crustacea	EC50 376 mg/l 48 hr Daphnia 48 hr (5)
Algae	LC5032.0 mg/l 72 hr Pseudokirchneriella subcapitata (5)
Persistence degradability	
Persistence	Not available
Degradability	Not available



Bioaccumulative potential	
Bioaccumulation	Not available
Biodegradation	Not available
Mobility in soil	Not available

### 13. Disposal considerations

Disposal method	<p>The generation of waste should be avoided or minimized wherever possible.</p> <p>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.</p> <p>Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements. The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.</p>
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### 14. Transport information

UN Number	1805
UN Proper shipping name	PHOSPHORIC ACID, SOLUTION
Transport Hazard class	Class 8
Packing group	III
Marine pollutant	Not applicable
Special precautions	
in case of fire	F-A
in case of leakage	S-B

### 15. Regulatory information

#### Korea

Occupational Safety and Health Regulation : Listed in occupational exposure assessment, Hazardous agent, Occupational exposure limits  
 Toxic Chemical Control Act : Not available  
 Dangerous Material Safety Management Regulation : Not applicable  
 Wastes Control Act : Not applicable

#### EU classification

Classification: C; R34  
 Risk phrases: R34  
 Safety phrases: S1/2, S26, S45

#### U.S.A management information

OSHA : Not applicable  
 CERCLA: 103 : 2267.995(kg) 5000 (lb)  
 EPCRA 302 : Not applicable  
 EPCRA 304 : Not applicable.  
 EPCRA 313 : Not applicable.  
 Substance of Roterdame Protocol: Not applicable.  
 Substance of Stockholme Protocol: Not applicable.  
 Substance of Montreal Protocol: Not applicable



## 16. Other information

Label Precaution

1. Do not breathe vapour.
2. Wear suitable protective clothing
3. In case of accident or if you feel unwell, seek medical advice.

Product use : Rust inhibitor / Compounding of detergents / Fertilizer / Fireproofing  
/ Metal treatment / Waste water treatment / Dyeing.

Issuing date : 04 January 2010

Revision number and date

Revision number :

Date of the latest revision :

This MSDS is prepared for buyer, operator or a third party to assist them in the safe handling

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