

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the product

Product number: O6021

Name of material: Ortho-Phosphoric Acid 85%

CAS No.: 7664-38-2

1.2 Recommended use and restriction on use

General use : For experimental, research and industrial use

Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

1.3 Manufacturer / Supplier / Distributor information

Importer/distributors identification

Company : ASIA CHEMIE (THAILAND) CO., LTD.

Address : 44/27 Moo.4 T.Huaykapi A.Muangchonburi, Chonburi, Thailand. 20130

Telephone number : +66 3838 7988

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E-mail : asiachemie@gmail.com, natchakot@asiachemie.com, natchakot@gmail.com

2. Hazards identification

2.1 GHS Classification

Acute toxicity (inhalation: vapor) : Category2

Skin corrosion/irritation : Category1A

Serious eye damage/irritation : Category1

Specific target organ toxicity(Single exposure) : Category1

2.2 GHS label elements

Hazard symbols



Signal words

- Danger

Hazard statements

- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H370 Causes damage to organs.

Precautionary statements

- P260 Do not breathe gas/mist/vapours/spray.
- P264 Wash hands 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.
- P284 Wear respiratory protection.
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- 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.
- P307+P311 If exposed: Call a POISON CENTER or doctor/physician.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P320 Specific treatment is urgent
- P321 Specific treatment
- P363 Wash contaminated clothing before reuse.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3 Other hazards which do not result in classification: (NFPA Classification)**NFPA grade (0 ~ 4 level)**

- Health : 3 , Flammability : 0, Reactivity : 0

3. Composition/information on ingredients

Chemical Name	Synonyms	CAS No.	Concentration (%)
Orthophosphoric acid	Ortho-phosphoramidate ; O-Phosphoric acid ; Phosphoric acid ; White phosphoric acid	7664-38-2	85
Water	Dihydrogen oxide ; Oxidane	7732-18-5	15

4. First aid measures**4.1 Eye contact**

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Remove contact lenses if worn.

4.2 Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Wash thoroughly after handling.

4.3 Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

4.4 Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.

4.5 Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

4.6 Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. Fire-fighting measures**5.1 Suitable (Unsuitable) extinguishing media**

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray.
- Avoid use of water jet for extinguishing.

5.2 Specific hazards arising from the chemical

- Not available

5.3 Special protective actions for firefighters

- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

6. Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Do not touch spilled material. Stop leak if you can do it without risk.
- Remove all sources of ignition.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment.

- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.
- Keep unauthorized people away, isolate hazard area and deny entry.

6.2 Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

6.3 Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.

7. Handling and storage

7.1 Precautions for safe handling

- Comply with all applicable laws and regulations for handling
- Get the manual before use.
- Refer to Engineering controls and personal protective equipment.
- Operators should wear antistatic footwear and clothing.
- Do not inhale the steam prolonged or repeated.

7.2 Conditions for safe storage, including any incompatibilities

- Do not use damaged containers.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- No open fire.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Collected them in sealed containers.

8. Exposure controls/personal protection

8.1 Exposure limits

ACGIH TLV

- [Orthophosphoric acid] : TWA 1 mg/m3 STEL 3 mg/m3

OSHA PEL

- [Orthophosphoric acid]: 1mg/m3

8.2 Engineering controls

Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
- Any self-contained breathing apparatus with a full facepiece.

Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

Hand protection

- Wear appropriate glove.

Skin protection

- Wear appropriate clothing.

Others

- Not available

9. Physical and chemical properties

A. Appearance	
- Appearance	Liquid
- Color	colorless
B. Odor	odorless
C. Odor threshold	Not available
D. pH	1.5 (0.1 N solution)
E. Melting point/Freezing point	42 °C
F. Initial Boiling Point/Boiling Ranges	158 °C
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability (solid, gas)	nonflammable
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	4 Pa (20°C)
L. Solubility	548 g/100 ml
M. Vapour density	3.4 (air=1)
N. Specific gravity (Relative density)	1.71
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	213 °C
R. Viscosity	3.86 cP (20°C, 40% solution)
S. Molecular weight	98

10. Stability and reactivity**10.1 Chemical Stability**

- This material is stable under recommended storage and handling conditions.

10.2 Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

10.3 Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces.

10.4 Incompatible materials

- Not available

10.5 Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. Toxicological information**11.1 Information on the likely routes of exposure****Respiratory tracts**

- Not available

Oral

- Not available

Eye · Skin

- Causes serious eye damage
- Causes severe skin burns and eye damage

11.2 Delayed and immediate effects and also chronic effects from short and long term exposure**Acute toxicity**

- * Oral

- Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
- [Orthophosphoric acid] : LD50 2600 mg/kg; Rat (1.7 ml/100g female, OECD Guideline 423)
- [Water] : LD50 > 90000 mg/kg Rat (KOSHA)

*** Dermal**

- Not available

*** Inhalation**

- Product (ATEmix) : 0.5mg/L < ATEmix <= 2.0mg/L
- [Orthophosphoric acid] : LC50 0.9615 mg/l 4 hr Rat (3,846 mg/m3/1H) (SIDS(2011))

Skin corrosion/irritation

- Causes severe skin burns and eye damage

Serious eye damage/irritation

- Causes serious eye damage

Respiratory sensitization

- Not available

Skin sensitization

- Not available

Carcinogenicity

*** IARC**

- Not available

*** OSHA**

- Not available

*** ACGIH**

- Not available

*** NTP**

- Not available

*** EU CLP**

- Not available

Germ cell mutagenicity

- Not available

Reproductive toxicity

- Not available

STOT-single exposure

- Causes damage to organs

STOT-repeated exposure

- Not available

Aspiration hazard

- Not available

12. Ecological information

12.1 Ecotoxicity

Fish

- Not available

Crustaceans

- [Orthophosphoric acid] : EC50 >100 mg/l 48 hr Daphnia magna (ECHA)

Algae

- [Orthophosphoric acid] : EC50 >100 mg/l 72 hr (Desmodesmus subspicatus) (ECHA)

12.2 Persistence and degradability

Persistence

- [Water] : log Kow = -1.38

Degradability

- Not available

12.3 Bioaccumulative potential

Bioaccumulative potential

- Not available

Biodegradation

- Not available

12.4 Mobility in soil

Not available

12.5 Other adverse effects

Not available

13. Disposal considerations

13.1 Disposal methods

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

13.2 Special precautions for disposal

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. Transport information

14.1 UN No. (IMDG CODE/IATA DGR)

- 1805

14.2 Proper shipping name

- PHOSPHORIC ACID SOLUTION

14.3 Hazard Class

- 8

14.4 IMDG CODE/IATA DGR Packing group

- III

14.5 Marine pollutant

- Not applicable

14.6 Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-B (Corrosive substances)

15. Regulatory information

15.1 National and/or international regulatory information

POPs Management Law

- Not applicable

Information of EU Classification

* Classification

- [Orthophosphoric acid] : H314

U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)

- Not applicable

* CERCLA Section 103 (40CFR302.4)

- [Orthophosphoric acid] : 2267.995 kg 5000 lb

* EPCRA Section 302 (40CFR355.30)

- Not applicable

* EPCRA Section 304 (40CFR355.40)

- Not applicable

* EPCRA Section 313 (40CFR372.65)

- Not applicable

Rotterdam Convention listed ingredients

- Not applicable

Stockholm Convention listed ingredients

- Not applicable

Montreal Protocol listed ingredients

- Not applicable

16. Other information

Reason for the revision: General update.

Date: 13/7/2014

Revision #3

Date: 07/04/2020

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