

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HAZCOM 2012 - GHS)
According to Canada Hazardous Products Regulation (WHMIS 2015)

Product name	PHOSPHORIC ACID 30-95%	
Product id	3003	
Revision date	22/10/2017	Revision: 1

1. Identification of the substance & the company

Product identifier	PHOSPHORIC ACID 30-95%
Synonym(s)	Emulsi-Phos®, LuminEtch™, PurEtch®, monophosphoric acid, orthophosphoric acid
Type of product and use	Phosphates and fertilizers, acid cleaners, aluminum brighteners and metal phosphatizing, leather tanning, varnish, synthetic rubber, and water treatment. Food grade is used as an acidulate for cola drinks, yeast nutrient, etc. NSF International certifies phosphoric acid under Standard 60 as an acceptable drinking water treatment chemical.
Supplier	ICL 622 Emerson Road - Suite 500 St. Louis, Missouri 63141, USA Tel:(314) 983-7500 Fax:(314) 983-7642 e-mail:msdsinfo@icl-group.com
	General Information: +1 800 244 6169 (Worldwide)
Emergency Telephone	Chemtrec: (800) 424-9300 Outside the USA, including ships at sea, call CHEMTREC's international and maritime telephone number (collect calls accepted): +1 (703) 527-3887 In Canada call CANUTEC: 1 613 996 6666

2. Hazards identification

GHS classification	Met. Corr 1 H290 May be corrosive to metals Acute Tox. 4, H302 Harmful if swallowed Skin Corr. 1B, H314 Causes severe skin burns and eye damage Eye Damage 1, H318 Causes serious eye damage
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Signal Word	DANGER
Hazard statements	H290 - May be corrosive to metals H302 - Harmful if swallowed H314 - Causes severe skin burns and eye damage
Precautionary statements	P260 - Do not breathe dust/fume/gas/mist/vapors/spray P280 - Wear protective gloves/protective clothing/eye protection/face protection P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower 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 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

3. Composition / information on ingredients

Components	CAS No.	Weight %
Phosphoric acid	7664-38-2	30-95

4. First-aid measures

Eye contact	Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention if irritation occurs.
Inhalation	In case of inhalation, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.

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Ingestion If swallowed, wash mouth thoroughly with plenty of water. Get medical attention immediately.

NOTE: Never give an unconscious person anything to drink

DO NOT INDUCE VOMITING

Most important symptoms and effects, acute or delayed

Harmful if swallowed
Causes severe skin burns and eye damage
Causes serious eye damage

Notes to the physician Treat symptomatically and supportively.
If swallowed, gastric irrigation. Medical supervision for at least 48 hours

5. Fire - fighting measures

Suitable extinguishing media	Use extinguishing media appropriate to surrounding fire conditions: Water spray, carbon dioxide (CO ₂), dry chemical powder or appropriate foam.
Extinguishing media not to be used	Do not use water jet.
Unusual fire and explosion hazards	When heated to decomposition, may release poisonous and corrosive fumes of phosphorus oxides, Phosphoric acids
Fire fighting procedure	Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA). Acid resistant clothing.

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6. Accidental release measures

Personal precautions	Wear appropriate safety clothing and eye/face protection (see Section 8).
Methods for cleaning up	Soak up with sand or other suitable absorbent and dispose of as solid waste. Collect in suitable and properly labeled containers. Ventilate area and wash spill site after material pickup is complete. Neutralise with lime or soda ash and flush with plenty of water.
Environmental precautions	Prevent product from entering drains, ditches and rivers.

7. Handling and storage

Handling	Keep containers tightly closed. Avoid bodily contact.
Storage	Store in a dry, well-ventilated area away from incompatible materials (see "materials to avoid").

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8. Exposure controls / personal protection

Exposure Limits :

Components	ACGIH-TLV Data	Korea OEL	OSHA (PEL) Data
Phosphoric acid 7664-38-2	1 mg/m ³ STEL: 3 mg/m ³	Not determined	1 mg/m ³

Ventilation requirements

Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

Personal protective equipment:

- **Respiratory protection** NIOSH/MSHA approved respiratory protection is recommended for use in airborne concentrations exceeding exposure limits.
A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
- **Hand protection** Protective gloves
- **Eye protection** Wear chemical goggles, a face shield, and if necessary, a full face respirator when conditions warrant or exceed the Occupation Exposure Limit. Refer to U.S. OSHA regulations 29 CFR 1910.133 or European Standard EN 166
- **Skin and body protection** Body covering clothes and boots.

Hygiene measures

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.

9. Physical and chemical properties

Appearance	syrupe liquid
Color	Colourless
Odor	Odorless.
Odor threshold	Not determined
pH	1 @ 20°C. (calculated)
Melting point/range	Not determined
Boiling point/range	75%: 135, 80%: 144, 85%: 154, 95%: 202 °C
Freezing point/range	75%: -17.5, 80%: 4.6, 85%: 21.1, 95%: 24.7 1°C
Flash point	>250°F Not flammable
Evaporation rate (ether=1)	Not determined

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Flammability (solid, gas)	Not determined	
Vapor pressure	0.0285mmHg @ 20°C (acid 100%)	
Density	75%: 1.575, 80%: 1.633, 85%: 1.692, 95%: 1.808 g/cm ³ @ 20°C	
Solubility:		
- Solubility in water	Completely miscible	
Partition coefficient (n-octanol/water)	Log Pow : -2. (calculated)	
Auto-ignition temperature	Not self-ignitable	
Decomposition temperature	Not determined	
Viscosity	75%: 12, 80%: 17, 85%: 23, 95%: 55 mPas (25°C),	
Ignition temperature	Not applicable	
Explosive properties	Not explosive	
Oxidising properties	None	

10. Stability and reactivity

Reactivity	No reactive hazards known/expected.
Stability	Stable under normal conditions
Possibility of hazardous reactions	Reacts with: alkalies, base metals forming hydrogen
Conditions to avoid	None.
Materials to avoid	Mild Steel and Aluminum. sulfides and sulfites alkalies, strong bases
Hazardous decomposition products	Phosphorus oxides.

11. Toxicological information

Toxicity	The following data refer to phosphoric acid 85%.
Acute toxicity:	
- Rat oral LD50	3500 mg/kg
- Rabbit dermal LD50	>1260 mg/kg
Skin corrosion/irritation	Causes severe skin burns
Serious eye damage/ irritation	Causes serious eye damage

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Respiratory or skin sensitisation Does not meet classification criteria

Mutagenicity Phosphoric acid has produced no genetic changes in standard tests using bacterial cells

Carcinogenicity Not established

Reproductive toxicity No data.

Developmental toxicity No data available

Specific Target Organ Toxicity (STOT) - Single exposure No data

Specific Target Organ Toxicity (STOT) - Repeat exposure No data

12. Ecological information

Aquatic toxicity Phosphoric acid is practically nontoxic to one species of freshwater fish. No toxicity data was located for other freshwater species, algae, or Daphnia magna in a search of the available scientific literature

- 96 Hour-LC50, Fish 138 mg/L (Mosquitofish)

- 48 Hour-EC50, Daphnia magna > 100 mg/L
EC50 (72 h) > 100 mg/L (desmodesmus subspicatus)

- NOEC 56 mg/L (daphnia magna)
100 mg/L (desmodesmus subspicatus)

Bioaccumulative potential Not expected to bioaccumulate.

Mobility in soil No data

Note: Does not meet the criteria for PBT or vPvB assessment (inorganic substance)

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13. Disposal considerations

Waste disposal	Observe all federal, state and local environmental regulations when disposing of this material
Disposal of Packaging	Dispose of in a safe manner in accordance with local/national regulations.

14. Transportation information

UN No.	1805
IMDG	Proper shipping name: PHOSPHORIC ACID, SOLUTION Class: 8 - Corrosives Label: CORROSIVE (8) Packing Group: III Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

15. Regulatory information

USA	Reported in the EPA TSCA Inventory.
Canada	Listed in DSL
EU	Reported in EINECS
Australia	Listed in AICS
China - China inventory	Listed in IECSC
Japan	Listed in ENCS Listed in ISHL
Korea	listed in KECI
Mexico	Listed in the National Inventory of Chemical Substances (INSQ).

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New Zealand Inventory	Listed in NZIoC
Philippines	Listed in PICCS
Taiwan	Listed (TCSI)
Vietnam	Listed
Thailand	Listed

16. Other information

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, we make no representations as to the completeness or accuracy thereof. Information is supplied to you upon the condition that the persons receiving the information will make their own determination as to its safety and suitability for their purposes prior to use. In no event will we be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information. In addition, we shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

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Prepared by

HERA Division
telephone: +/972-8-6297835
telefax: +/972-8-6297832
www.icl-ip.com
e-mail:msdsinfo@icl-group.com

End of safety data sheet