



## SAFETY DATA SHEET

Phosphoric Acid 75%, 80% and 85%

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Date of issue: 25/06/2009

Date of revision: 06/05/2015

Version no.: 6

**Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation")**

### **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

#### **1.1 Product identifier**

**Product name:** Phosphoric Acid 75%, 80% and 85%

**Trade names:** Phosphoric Acid 75%, 80% and 85%; Multy-P

**Synonyms:** Orthophosphoric acid; Phosphoric acid (aqueous); White phosphoric acid

**Chemical formula:** H<sub>3</sub>PO<sub>4</sub>

**Fertilizer formula:** 0-61-0

**Product type:** Liquid

**CAS number:** 7664-38-2

**EC number:** 231-633-2

**REACH registration no(s):** 01-2119485924-24

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

Agriculture - component of liquid fertilizers, pH adjuster, cleaner of irrigation system.

Food processing - acidifier, sequestrant, synergist for antioxidant.

Pharmacopoeia - processed aid (solvent), dental cement.

Industries - manufacture of inorganic phosphates, fertilizers, detergents, acid catalyst, metal treatment, water treatment.

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

##### **Company/undertaking identification**

##### **USA importer:**

Haifa North America

307 Cranes Roost Blvd

Suite 2030, Altamonte Springs, Florida 32701

##### **Other Countries Importer**

##### **Supplier/Manufacturer:**

Haifa Chemicals Ltd.

P.O.Box 15011

Matam-Haifa, 31905, Israel

#### **1.4 Emergency telephone number**

**Emergency telephone number (with hours of operation):**

CHEMTREC (U.S.): 1-800-424-9300



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### SECTION 2: Hazards identification

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

Classification according to 29 CFR 1910.1200 (OSHA HCS):

Met. Corr. 1 H290  
Skin Corr. 1B H314

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP):

Met. Corr. 1 H290  
Skin Corr. 1B H314

See section 16 for the full text of the H-statements declared above.

#### **2.2 Label elements**

Classification according to 29 CFR 1910.1200 (OSHA HCS)

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H290: May be corrosive to metals.  
H314: Causes severe skin burns and eye damage.

Precautionary Statement(s):

P260: Do not breathe dust  
P280: Wear protective gloves, protective clothing, eye and face protection  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water  
P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
P405 Store locked up



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Labelling in accordance with Regulation 1272/2008 (CLP)

Hazard pictogram(s):



Signal word: Danger

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P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P405 Store locked up

### 2.3 Other hazard

Not available

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## SECTION 3: Composition/information on ingredients

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### 3.1 Substances:

Ingredient name	Identifiers	%	CLP	OSHA HCS
Phosphoric acid	CAS number: 7664-38-2 EC number: 231-633-2 REACH: 01-2119485924-24	75/80/85	Met. Corr. 1 H290 Skin Corr. 1B H314	Met. Corr. 1 H290 Skin Corr. 1B H314
Water	CAS number: 7732-18-5 EC number: 231-791-2	Balance	Not classified	Not classified

See section 16 for the full text of the H-statements declared above.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in section 8.**

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## SECTION 4: First aid measures

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### 4.1 Description of first aid measures



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- Eyes contact:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. Get medical attention.
- Skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Get medical attention.
- Inhalation:** Remove the victim from site of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration. Get medical attention.
- Ingestion:** **Do not induce vomiting.** If victim is conscious, wash mouth thoroughly with plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

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

Causes burns to respiratory tract, gastrointestinal tract, skin and eyes. May cause irritation to the nose, eyes, skin, throat and upper respiratory tract. In contact with skin may cause redness, pain and severe skin burns.

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

Not available

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## **SECTION 5: Fire-fighting measures**

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### **5.1 Extinguishing media**

Suitable: Use an extinguishing agent suitable for surrounding fire.

Not suitable: N/A

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

Hazardous combustion products: oxides of phosphorous at >300°C (572°F)

### **5.3 Advice for firefighters**

**Special protective equipment for fire fighters:** Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode.

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## **SECTION 6: Accidental release measures**

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Avoid contact with skin and eyes. Ensure adequate ventilation. Ventilate area of spill.

### **6.2 Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas.

### **6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

Large spill: As for small spill

### **6.4 Reference to other sections**

See Section 1 for emergency contact information.

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## **SECTION 7: Handling and storage**

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### **7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapors, mist or gas. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice..

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

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

**Storage:** Keep containers tightly closed, in a dry, cool and well ventilated place. Protect from humidity. Do not store together with strong bases, metals and strong oxidizing agents. Keep away from heat. Packaging materials recommended: Do not store in metal containers

### **7.3 Specific end use(s):** N/A

## **SECTION 8: Exposure control/personal protection**

### **8.1 Control parameters**

<b>Ingredient name</b>	<b>Occupational exposure limits</b>
Phosphoric acid	ACGIH-TLV 1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL) OSHA-PEL 1 mg/m <sup>3</sup> (TWA) GER-MAK 2 mg/m <sup>3</sup> (TWA), inhalable NIOSH-REL, 10H, 1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)

### **Derived effects levels:**

Recommended occupational and consumer exposure limit values (following from the preformed CSA):

<b>Exposure pattern</b>	<b>Derived No Effect Level (DNEL)</b>	
	<b>Workers</b>	<b>General population</b>
Oral	N/A	N/A
Dermal	N/A	N/A
Inhalation	2.92 mg/m <sup>3</sup> (long-term)	0.73 mg/m <sup>3</sup> (long-term)

### **8.2 Exposure controls**

#### Engineering measures

Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### Person Protective measures

Respiratory protection: Disposable particulate mask. Be sure to use an approved/certified equipment or equivalent equipment. Wear appropriate respirator when ventilation is inadequate.

Hand protection: Wear protective disposable gloves to prevent skin exposure. Material of gloves: Chloroprene, Neoprene or PVC.

Eye protection: Wear protective safety glasses.



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Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Environmental exposure controls: Not available

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### SECTION 9: Physical and chemical properties

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

Appearance: Liquid, colorless

Odour: Odourless

Odour threshold: Odourless

pH: <1 (Conc.(%w/w): 1) [Acidic]

Melting point/Freezing point: -20°C (-4°F) - 75% Phosphoric acid

0°C (32°F) - 80% Phosphoric acid

21°C (70°F) - 85% Phosphoric acid

Initial boiling point/boiling range: 135-158°C (275-316°F)

Flash point: Not applicable

Evaporation rate: <1; compared with butyl acetate (butyl acetate=1)

Flammability: Not flammable

Upper/lower flammability or explosive limits: N/A

Vapor pressure: 0.75 kPa (5.65 mm Hg) at 20°C (68°F) - 75% Phosphoric acid

0.29 kPa (2.16 mm Hg) at 20°C (68°F) - 85% Phosphoric acid

Vapor density: N/A

Relative Density: 1.573 g/ml at 25°C (77°F) - 75% Phosphoric acid

1.628 g/ml at 25°C (77°F) - 80% Phosphoric acid

1.685 g/ml at 25°C (77°F) - 85% Phosphoric acid

Solubility(ies): miscible in water

Partition coefficient Octanol/Water: Not applicable, inorganic substance

Auto-ignition temperature: Not applicable

Decomposition temperature: >158°C (316°F) - release of water, becomes polyphosphoric acids

Viscosity: Viscous liquid

Explosive properties: Not explosive

Oxidizing properties: Not oxidizer

#### **9.2 Other information**

Molecular weight: 98.0 g/mol

Vapor composition: Pure water vapor up to about 300°C (572°F)

Vapors of water and phosphorous oxide at >300°C (572°F)



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### SECTION 10: Stability and reactivity

#### **10.1 Reactivity**

Not available.

#### **10.2 Chemical stability**

The product is stable under normal handling and storage conditions described in Section 7.

#### **10.3 Possibility of hazardous reactions**

Reacts violently with strong bases. Contact with metals may release flammable hydrogen gas.

#### **10.4 Conditions to avoid**

Extreme humidity. Excess heat.

#### **10.5 Incompatible materials**

Metals, strong oxidizing agents and strong bases. Do not mix with solutions containing bleach or ammonia.

#### **10.6 Hazardous decomposition products**

Other decomposition products: not available

In the event of fire: see section 5

### SECTION 11: Toxicological information

#### **11.1 Information on toxicological effects**

Acute toxicity:

Product/ingredient name	Test	Species	Dose
Phosphoric acid	LD50, Oral	Rat (female)	1.7 mL/100 g body weight (equivalent or similar to OECD Guideline 423)

Skin corrosion/irritation: Corrosive

Serious eye damage/irritation: Corrosive

Respiratory or skin sensitization: Not available

Germ cell mutagenicity: Phosphoric acid was found to be negative in all available in vitro gene mutation tests and therefore, the substance should not be classified for mutagenicity.

Carcinogenicity: This product does not contain any substances that are considered by IARC, NTP, OSHA, EU or ACGIH to be "probable" or "suspected" human carcinogens.

Reproductive toxicity: Based on the available data and according to the criteria laid down in the CLP Regulation, phosphoric acid should not be classified for reproductive toxicity

Specific target organ toxicity (single exposure): Not available

Specific target organ toxicity (repeated exposure): Oral (Rat): NOEL 250 mg/kg bw/day, OECD Guideline 422. Based on the available data for repeated dose toxicity via the oral route and according to the CLP criteria, phosphoric acid should not be classified for STOT - repeated exposure

Aspiration hazard: Not available

Other symptoms: Inhalation of product may aggravate existing chronic respiratory disease.



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### Over-exposure sign/symptoms:

Eyes contact: Adverse symptoms may include the following: Symptoms may include redness, pain, blurred vision, eye burns and permanent eye damage.

Inhalation: Symptoms may include irritation to the nose, throat and upper respiratory tract

Ingestion: Adverse symptoms may include the following:

Symptoms may include severe burns of the mouth, throat and stomach. Ingestion of large quantities may cause gastrointestinal irritation, vomiting and diarrhea.

Skin contact: Adverse symptoms may include the following: May cause redness, pain and severe skin burns.

Toxicokinetics (absorption, metabolism, distribution and elimination): Phosphoric acid is not considered to have bioaccumulative potential as it is highly soluble in water and phosphate levels in the body are regulated via homeostasis.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Toxicity to algae	Toxicity to crustaceans
Phosphoric acid	EC50 (72 h): >100 mg/L test mat. (nominal) NOEC (72 h): 100 mg/L test mat. (nominal)	EC50 (48 h): > 100 mg/L test mat. (nominal) based on: immobilisation

### 12.2 Persistence and Degradability

Not applicable, since inorganic substance.

### 12.3 Bioaccumulative potential

Not relevant due to high water solubility.

### 12.4 Mobility in soil

Phosphoric acid itself will not absorb to soil. In most cases it will dissociate to  $(\text{PO}_4)^{-3}$  and  $\text{H}^+$  ions in the soil pore water, and/or react with minerals present in the soil, in particular calcium, iron and aluminium. Except in very specific circumstances (acidic soils, certain mineral soil types, very high dosage of phosphoric acid) phosphoric acid will not therefore penetrate beyond the surface layer of soil and will not reach the groundwater table.

### 12.5 Results of PBT and vPvB assessment

Not applicable

### 12.6 Other adverse effects

No sediment or terrestrial toxicity data exists. Substance is not considered to be hazardous to sediment dwelling or terrestrial organisms. Increases in phosphoric acid concentrations may result in a decreased pH with may have a detrimental local effect on organisms.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods





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Directive 2008/98/EC on waste, of 19 November, 2008: Depending on branch of industry and production process, also other EURAL codes may be applicable

06 03 14: solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

### Product

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### Packing

Empty containers should be taken for local recycling, recovery or waste disposal.

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## SECTION 14: Transport information

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### **14.1 Un number**

ADR/RID: 1805

IMDG: 1805

IATA: 1805

DOT (US): 1805

### **14.2 UN proper shipping name**

ADR/RID: PHOSPHORIC ACID, SOLUTION

IMDG: PHOSPHORIC ACID, SOLUTION

IATA: Phosphoric acid, solution

DOT (US): Phosphoric acid solution

### **14.3 Transport hazard class(es)**

ADR/RID: 8

IMDG: 8

IATA: 8

DOT (US): 8

### **14.4 Packing group**

ADR/RID: III

IMDG: III

IATA: III

DOT (US): III

### **14.5 Environmental hazard**

ADR/RID: -

IMDG: -

IATA: -

DOT (US): -

### **14.6 Special precautions for user**

Not available

### **14.7 Transport to bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not available

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## SECTION 15: Regulatory information

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This SDS complies with the following requirements of:

EU Directives 67/548/EEC (DSD) and 1999/45/EC (DPD), including amendments

EU Regulation (EC) No.1907/2006 (REACH) including amendments

Regulation (EC) No.1272/2008 (CLP)

29 CFR 1910.1200 (OSHA HCS)

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.



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TSCA inventory  
Listed

### **15.2 Chemical safety assessment**

In accordance with REACH article 14, a Chemical Safety Assessment has been carried out for this substance.

### **15.3 Other information**

U.S. - FDA - Direct Food Additives Phosphoric acid 7664-38-2 Not Listed  
U.S. - FDA - Food Additives Generally Recognized as Safe (GRAS) Phosphoric acid 7664-38-2 21 CFR 182.1073  
U.S. - FDA - Total Food Additives List Sourced from EAFUS 133.123, 133.124, 133.129, 133.169, 133.173, 133.178, 133.179, 163.110, 163.111, 163.112, 175.300, 177.2260, 178.1010, 178.3520, 182.1073, 73.275, 73.85  
U.S. - USDA - National Organic Program - Substances Allowed as Ingredients in or on Organic Processed Products  
Phosphoric acid 7664-38-2 (cleaning of food-contact surfaces and equipment only)

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## **SECTION 16: Other information**

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### **HMIS Rating**

Health hazard: 3                      Chronic Health Hazard:\*                      Flammability: 0                      Physical Hazard 0

### **NFPA Rating**

Health hazard: 3                      Fire Hazard: 0                      Reactivity Hazard: 0

### Full text of Hazards Statements referred to in sections 2 and 3:

Skin Corr.- Skin corrosion

Met. Corr.- Corrosive to metals

H290: May be corrosive to metals.

H314: Causes severe skin burns and eye damage.

### Additional Precautionary statements:

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash... thoroughly after handling.

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.

P363: Wash contaminated clothing before reuse.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor/physician.

P321: Specific treatment (see... on this label).

P405: Store locked up.

P501: Dispose of contents/container to...

Training advice: Before using/handling the product one must read carefully present SDS.

### Key Legend Information:

CAS - Chemical Abstract Service

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NTP - National Toxicology program



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IARC - International Agency for Research on Cancer

N/A - Not available

R-phrases - Risk phrases

H-statements - Hazard statements

TLV - Threshold Limit Value

TWA - Time-weighted average

STEL - Short-Term Exposure Limit

CSA - Chemical safety assessment

Date of issue: 06/05/2015