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_3PO_4
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
European Importer:
Haifa Chemicals Northern Europe
Generaal de Wittelaan 17, bus 16
B-2800 Mechelen, Belgium
Tel: +32-15-270811
Fax: + +32-15 270815
E-mail: NorthWestEurope@haifa-group.com

Other Countries Importer
Supplier/Manufacturer:
Haifa Chemicals Ltd.
P.O.Box 15011
Matam-Haifa, 31905, Israel
Tel: 972-74-7373737
Fax: 972-74-7373733
E-mail: Regulatory@haifa-group.com

E-mail address of person responsible for this SDS: Regulatory@haifa-group.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation): +972-74-7373737
CHEMTREC (U.S.): 1-800-424-9300

SECTION 2: Hazards identification

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):
P234: Keep only in original container.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P390: Absorb spillage to prevent material damage.
P406: Store in a corrosive resistant/… container with a resistant inner liner.

Labelling in accordance with Regulation 1272/2008 (CLP)
Hazard pictogram(s):

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P390: Absorb spillage to prevent material damage.
P406: Store in a corrosive resistant/… container with a resistant inner liner.

2.3 Other hazard
Not available

SECTION 3: Composition/information on ingredients

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.

SECTION 4: First aid measures

4.1 Description of first aid measures

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

SECTION 5: Fire-fighting measures

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.

SECTION 6: Accidental release measures

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.

SECTION 7: Handling and storage

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

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

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

Exposure pattern	Derived No Effect Level (DNEL)	
	Workers	**General population**
Oral	N/A	N/A
Dermal	N/A	N/A
Inhalation	2.92 mg/m³ (long-term)	0.73 mg/m³ (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.
Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Environmental exposure controls: Not available

SECTION 9: Physical and chemical properties

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)

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.

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 $(PO_4)^{-3}$ and 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
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.

SECTION 14: Transport information

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

SECTION 15: Regulatory information

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.

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.

SECTION 16: Other information

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
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