Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation") and REGULATION (EC) No 1272/2008 (CLP)

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Monoammonium phosphate

Trade names: Monoammonium phosphate;Haifa-MAP; Hi-MAP;

Synonyms: Phosphoric acid, monoammonium salt; Ammonium phosphate monobasic; Ammonium dihydrogen phosphate; MPA; Ammonium duhydrogenorthophosphate;

Chemical formula: $NH_4 \cdot H_2PO_4$

Fertilizer formula: 12-61-0

Product type: Solid

CAS number: 7722-76-1

EC number: 231-764-5

REACH registration no(s): 01-2119488166-29

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

Use of the substance/preparation: Agriculture – fertilizer, component of mixed fertilizers, nutrient supplement.

Food processing- buffer, dough conditioner, leavener, nutrient.

Industries- ceramics, textile, pulp and paper.

Flame-proofing and fire extinguisher agent.

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
E-mail: hichem@hichem.be

Other Countries Importer

Supplier/Manufacturer: Haifa Chemicals Ltd.
P.O.B 10809, Haifa Bay 26120, Israel
Tel: +972-4-8469616
Fax: +972-4-8469953

E-mail address of person responsible for this SDS: info@haifachem.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation): +972-4-8469616

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

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Ingredient name	GHS Classification
Monoammonium phosphate	-

Classification according to Directive 67/548/EEC (DSD) or 1999/45/EC

Ingredient name	EU Classification
Monoammonium phosphate	-

See section 16 for full text of the R phrases or H statements declared above.
See section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Labeling in accordance with Regulation 1272/2008 (CLP)
Hazard pictograms: Not required

Signal word: Not classified

Hazard statements: Not required

2.3 Other hazard

Substance meets the criteria for BBT according to Regulation (EC) No. 1907/2006, Annex XIII:
Not applicable
Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:
Not applicable
Other hazard which do not result in classification:
Not applicable

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:

Prodact/ Ingredient name	Identifiers	%	EU Classification	GHS Classification
Monoammonium phosphate	CAS number: 7722-76-1 EC number: 231-764-5 REACH : 01-2119488166-29	100	-	-

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. Get medical attention if irritation occurs.

Skin contact: Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with soap and water. Get medical attention if irritation develops.

Inhalation: Avoid breathing dust. If inhaled, remove to fresh air.

Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin contact: Not irritating

Eyes contact: Dust may cause mechanical eye irritation.

Over-exposure sigh/symptoms:
Eyes contact: No special data
Inhalation: No special data
Ingestion: No special data
Skin contact: No special data

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: In case if inhalation of decomposition products I a fire, symptoms may be delayed. The exposure person may need to be kept under medical surveillance for 48 hours.

Special treatments: No specific treatment

Section 5: Fire-Fighting Measures

5.1 Extinguishing media

Suitable: Use an extinguishing agent suitable for the surrounding fire.

Not suitable: N/A

5.2 Special hazards arising from the substance or mixture

Non-combustible.

Hazardous thermal decomposition products: Under fire - oxides of phosphorous, ammonia.

5.3 Advice for firefighters

Special protective equipment for fire fighters: Fire-fighters should wear appropriate protective equipment and self contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark: Move containers from fire area if possible to do so without risk.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing. Ventilate area of spill.

6.2 Environmental precautions

Do not let this chemical enter the environment. Avoid contact of spilt material and runoff with soil and surface waterways.

6.3 Methods and materials for containment and cleaning up

Small spill: Use a tool to scoop up solid material and place into an appropriate labeled waste container. Do not mix with sawdust or other combustible material. Avoid creating dusty conditions and prevent wind dispersal. Keep out of waterways.

Large spill: As for small spill

Personal Protection in Case of Large Spill: Safety glasses. Full suit. Dust respirator. Boots. Gloves. A self- contained breathing apparatus should be used to avoid inhalation of the product.

6.4 Reference to other sections

See Sections 1 for emergency contact information
See Section 8 for information on a appropriate personal protective equipment
See Section 13 for additional waste treatment information

Section 7: Handling and Storage

7.1 Precautions for safe handling

Handling: Minimize dust generation and accumulation. Do not breathe dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Do not permit eating/drinking/smoking near the material.
Hygiene Measures:
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.

Use original container. Condition to avoid: moisture. Avoid contact with alkaline compounds, magnesium, strong acids and high temperature above 170°C(338°F). Do not store together with alkalis.

Keep away from heat, sparks and open flame.
Recommended : Use original container.

7.3 Specific end use(s): N/A

Section 8: Exposure Control / Personal Protection

8.1 Control parameters

Occupational exposure limit values: N/A
Deraived 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	2.1 mg/kg bw/day
Dermal	34.7 mg/kg bw/day	20.8 mg/kg bw/day
Inhalation	6.1 mg/m³	1.8 mg/m³

8.2 Exposure controls

Enginnering 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**

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

Hand protection: Wear protective disposable vinyl gloves to prevent skin exposure.

Eye protection: Wear protective safety glasses.

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

Hygiene measures: Keep away from foodstuffs and beverages. Do not eat, drink or smoke during work time. Remove soiled or soaked clothing immediately. Clean skin thoroughly after work; apply skin cream. During use, provide suitable ventilation.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Solid (crystals), white
Odour: Odorless
Odour threshold: Odorless
pH: 4 to 5 (Conc.(%w/w): 1%) [Acidic]
Melting point/Freezing point: 190°C

Initial boiling point/boiling range: Not applicable
Flash point: Not applicable
Evaporation rate: Not volatile (butyl acetate=1)
Flammability: Not flammable
Upper/lower flammability or explosive limits: N/A
Vapor pressure: 0.00147 kPa (<0.01 mm Hg) at 20°C (293°F) – Not Volatile
0.0066 kPa (0.05 mm Hg) at 125°C (257°F) – Practically Not Volatile
Vapor density: Not volatile
Relative Density: 1.8 (water=1) at 20°C
Solubility(ies): Water solubility- 36.8g/100g of water at 20°C (68°F)
Partition coefficient Octanol/Water: The product is more soluble in water; log(octanol/water)<1
Auto-ignition temperature: Not applicable
Decomposition temperature: 200°C (473°K)
Viscosity: Not viscous
Explosive properties: Not explosive
Oxidizing properties: No oxidizing properties

9.2 Other information:
Molecular weight: 115.03
VOC: Not an organic compounds
Apparent (Bulk) Density: 0.8 – 1.2 g/cm^3
Miscibility: Not applicable
Fat solubility: Not applicable
Conductivity: Not applicable
Gas group: Not applicable

Section 10: Stability and Reactivity

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients

10.2 Chemical stability
The product is stable under normal handling and storage conditions described in Section 7. Reacts with alkalis.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
Extreme humidity, and excess heat.

10.5 Incompatible materials
Alkaline compounds, strong oxidizing agents, magnesium and moisture

10.6 Hazardous Decomposition products:
Ammonia generation under alkaline conditions. Under fire- oxides of nitrogen, ammonia

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Test	Species	Dose
Monoammonium phosphate	LD50, oral LD50, dermal LC50, Inhalation	Rat Rabbit Rat	> 2000 mg/kg > 5000 mg/kg > 5000 mg/m³ air

Irritation and corrosivity:

Inhalation: N/A

Ingestion: Conclusive but not sufficient for classification

Skin contact: Slightly irritating

Eyes contact: Slightly irritating

Sensitization: N/A

Chronic toxicity:
Carcinogenicity: According to CSR - conclusive but not sufficient for classification.
This product does not contain any substances that are considered by IARC, NTP, OSHA, EU or ACGIH to be “probable” or “suspected” human carcinogens.

Mutagenicity: Conclusive but not sufficient for classification

Reproductive toxicity: Conclusive but not sufficient for classification
Specific target organ toxicity (single exposure): Not applicable.

Specific target organ toxicity (repeated exposure): Not applicable.

Aspiration hazard: Not applicable.

Other effects
Over exposure signs/symptoms: No specific data.

Target organs: Conclusive but not sufficient for classification.

Toxicokinetics: N/A

Section 12: Ecological Information

12.1 Toxicity

Substance name	Toxicity to fish	Toxicity to crustaceans	Toxicity to algae	Toxicity to other aquatic plants	Other toxicity data (birds, bees, plants etc.)
Monoammonium phosphate	LC50 (96 h): > 85.9 mg/L	LC50 (72 h): 1790 mg/L	EC50 (72 h): > 100 mg/L	-	-

Predicted effect concentrations

Prodact/ Ingredient name	Type	Compartment Detail	Value	Method Detail
Monoammonium phosphate	PNEC	Fresh water	1.7 mg/L	Assessment Factors
	PNEC	Marine	0.17 mg/L	Assessment Factors

12.2 Persistence and Degradability

Not applicable, since inorganic substance.

12.3 Bioaccumulative potential

Substance name	LogPow	BCF	Potential
Monoammonium phosphate	<1	-	-

12.4 Mobility in soil

Soil/water partition coefficient (Koc) : N/A

Mobility: Soluble in water

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects

Substances which have an unfavorable influence on the oxygen balance and can be measured using parameters such as BOD, COD, etc.: Absent

Substances, which contribute to eutrophication: Phosphates

Section 13: Disposal Considerations

13.1 Waste treatment methods

Provisions relating to waste: 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

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

Hazardous waste: N/A

Packing

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

Section 14: Transport Information

International transport regulations

Regulatory Information	14.1 UN number	14.2 Proper shipping name	14.3 Classes	14.4 Packing group	14.5 Environmental hazard	14.6 Special precautions for user	Additional information
ADR/RID Class	NOT regulated	-	-	-	-	-	-
ADNR Class	NOT regulated	-	-	-	-	-	-
IMDG class	NOT regulated	-	-	-	-	-	-
IATA class	NOT regulated	-	-	-	-	-	-

14.7 Transport to bulk according to Annex II of MARPOL 79/78 and the IBC Code

Not applicable

Section 15: Regulatory Information

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

EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use
EU Regulation(EC) No.1907/2006 (REACH), No 1272/2008 (CLP)

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

Full text of R-phrases referred to in sections 2 and 3: N/A

Safety phrases: Not classified

Full text of Hazards Statements referred to in sections 2 and 3: N/A

Precautionary Statements: Not classified

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

Recommended restriction: N/A

Key Legend Information:
ACGIH- American Conference of Governmental Industrial Hygienists
OSHA- Occupational Safety and Health Administration
NTP- National Toxicology program
IARC- International Agency for Research on Cancer
ND- Not Determined
N/A- Not available
R-phrases- Risk phrases
S-phrases- Safety phrases

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