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

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>MONOAMMONIUM PHOSPHATE</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Ammonium dihydrogenorthophosphate</td>
</tr>
<tr>
<td>EC index no</td>
<td>No</td>
</tr>
<tr>
<td>EC no</td>
<td>231-764-5</td>
</tr>
<tr>
<td>CAS No</td>
<td>7722-76-1</td>
</tr>
<tr>
<td>REACH registration No</td>
<td>01-2119488166-29-0000</td>
</tr>
<tr>
<td>Product code</td>
<td>PR-008</td>
</tr>
<tr>
<td>Formula</td>
<td>NH4H2PO4</td>
</tr>
<tr>
<td>Synonyms</td>
<td>MAP; Primary ammonium phosphate; Ammonium phosphate monobasic; Ammonium dihydrogen phosphate; Ammonium biphosphate; Hortipray® MAP</td>
</tr>
<tr>
<td>Product group</td>
<td>phosphates</td>
</tr>
</tbody>
</table>

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

#### 1.2.1. Relevant identified uses

<table>
<thead>
<tr>
<th>Use of the substance/mixture</th>
<th>Substance used as such, in formulation or in formulation of products for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fireproof agent</td>
<td>Fire resistant powder</td>
</tr>
<tr>
<td>Refractory products</td>
<td>Frit</td>
</tr>
<tr>
<td>Coating</td>
<td>Laboratory chemicals</td>
</tr>
<tr>
<td>Oral care</td>
<td>Welding industry</td>
</tr>
<tr>
<td>Frit</td>
<td>Horticulture</td>
</tr>
</tbody>
</table>

#### 1.2.2. Uses advised against

<table>
<thead>
<tr>
<th>Title</th>
<th>Use descriptors</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOSPHATE MONOAMMONIQUE</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

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

PRAYON S.A.
Rue Joseph Wauters, 144
B-4480 Engis - Belgique-Belgium
T +32 (0)4 273 92 11 - F +32 (0)4 273 96 35
Reachcustomer@prayon.be - www.prayon.be

### 1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICELAND</td>
<td>Iceland Poisons Information Centre</td>
<td>Fossvog 108 Reykjavik</td>
<td>+354 525 111, +354 543 2222</td>
</tr>
<tr>
<td>IRELAND (REPUBLIC OF)</td>
<td>National Poisons Information Centre</td>
<td>Beaumont Hospital Beaumont Road 9 Dublin</td>
<td>+353 1 8379964</td>
</tr>
<tr>
<td>ISRAEL</td>
<td>Israel Poisons Information Centre</td>
<td>PO Box 9602 31096 Haifa</td>
<td>+972 4 854 1900</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0870 600 6266 (UK only),</td>
</tr>
<tr>
<td></td>
<td>Royal Victoria Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)</td>
</tr>
<tr>
<td></td>
<td>City Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)</td>
</tr>
<tr>
<td></td>
<td>Swansea Medical School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>NPIS Edinburgh (Scottish Poisons Information Bureau)</td>
<td>Royal Infirmary of Edinburgh</td>
<td>0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)</td>
</tr>
<tr>
<td></td>
<td>Royal Infirmary of Edinburgh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>Guy's &amp; St Thomas' Poisons Unit</td>
<td>Avonley Road SE14 5ER London</td>
<td>0870 243 2241</td>
</tr>
<tr>
<td></td>
<td>Medical Toxicology Unit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MONOAMMONIUM PHOSPHATE
Safety Data Sheet
according to Regulation (EC) No. 453/2010

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Labelling not applicable

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substance

Name: MONOAMMONIUM PHOSPHATE
CAS No: 7722-76-1
EC no: 231-764-5
EC index no: None

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium dihydrogenophosphate</td>
<td>(CAS No) 7722-76-1</td>
<td>&gt;= 99</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>(EC no) 231-764-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EC index no) None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove victim to fresh air. Call a physician immediately. If breathing is difficult, give oxygen.
First-aid measures after skin contact: Remove contaminated clothing and shoes. If on skin, take off contaminated clothing. Wash immediately with plenty of soap and water.
First-aid measures after eye contact: In case of eye contact, immediately rinse with clean water for 10-15 minutes. Call a doctor.
First-aid measures after ingestion: Do not induce vomiting. Seek medical attention if ill effect develops. Immediately rinse mouth with water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: No specific effects and/or symptoms have been reported or are known.

4.3. Indication of any immediate medical attention and special treatment needed

See Heading 4.1.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: All extinguishing media can be used.
5.2. **Special hazards arising from the substance or mixture**

Fire hazard: When heated to decomposition, emits toxic fumes.

5.3. **Advice for firefighters**

Protection during firefighting: Suitable respiratory equipment. Total impervious protective suits, gloves, and boots must be worn.

**SECTION 6: Accidental release measures**

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

**General measures**

Keep public away from danger area. Personal protective equipment (see section(s) 8.2).

6.1.1. **For non-emergency personnel**

No additional information available

6.1.2. **For emergency responders**

No additional information available

6.2. **Environmental precautions**

Prevent entry to sewers and public waters.

6.3. **Methods and material for containment and cleaning up**

Methods for cleaning up: On land, sweep or shovel into suitable containers. Collect spill when it is dry. Wash thoroughly after handling.

6.4. **Reference to other sections**

See section 8 and 13 for more information.

**SECTION 7: Handling and storage**

7.1. **Precautions for safe handling**

**Precautions for safe handling**

Do not breathe dust. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

**Hygiene measures**

When using do not eat, drink or smoke. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Remove contaminated clothing and shoes.

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

**Storage conditions**

Store in dry, cool, well-ventilated area.

7.3. **Specific end use(s)**

No additional information available

**SECTION 8: Exposure controls/personal protection**

8.1. **Control parameters**

**MONOAMMONIUM PHOSPHATE (7722-76-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL/DMEL (Workers)</td>
<td></td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
<td>34.7 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>6.1 mg/m³</td>
</tr>
<tr>
<td>DNEL/DMEL (General population)</td>
<td></td>
</tr>
<tr>
<td>Long-term - systemic effects, oral</td>
<td>2.1 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>1.8 mg/m³</td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
<td>20.8 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>PNEC (Water)</td>
<td></td>
</tr>
<tr>
<td>PNEC aqua (freshwater)</td>
<td>1.7 mg/l</td>
</tr>
<tr>
<td>PNEC aqua (marine water)</td>
<td>0.17 mg/l</td>
</tr>
<tr>
<td>PNEC aqua (intermittent, freshwater)</td>
<td>17 mg/l</td>
</tr>
<tr>
<td>PNEC (STP)</td>
<td></td>
</tr>
<tr>
<td>PNEC sewage treatment plant</td>
<td>10 mg/l</td>
</tr>
</tbody>
</table>

8.2. **Exposure controls**

Appropriate engineering controls: Avoid dust production. Good ventilation of the workplace required.
Hand protection: Wear protective gloves.
Eye protection: Safety glasses with side shields
Skin and body protection: Protective clothing (with elasticated cuffs and closed neck)
Respiratory protection: Appropriate dust or mist respirator should be used if airborne particles are generated when handling this material (Type FFP2 in accordance with EN 140 or 149)
Environmental exposure controls: Avoid release to the environment.

### SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Crystals</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>115 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>4.2 - 4.8</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>197 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 197 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.00174 Pa</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.81 20°C</td>
</tr>
<tr>
<td>Density</td>
<td>0.9 g/cm³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: 365 g/l 20°C</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Non oxidizing material according to EC criteria.</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No additional information available.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Stable under normal conditions (Handling and storage).

#### 10.2. Chemical stability

Stable under normal conditions (Handling and storage).

#### 10.3. Possibility of hazardous reactions

No.

#### 10.4. Conditions to avoid

Moisture. High temperature.

#### 10.5. Incompatible materials


#### 10.6. Hazardous decomposition products

Toxic fumes. Ammonia. Phosphorus oxides.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>MONOAMMONIUM PHOSPHATE (7722-76-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
</tbody>
</table>
MONOAMMONIUM PHOSPHATE
Safety Data Sheet
generated according to Regulation (EC) No. 453/2010

LD50 dermal rat: > 5000 mg/kg (OECD 502)
LC50 inhalation rat (mg/l): > 5 mg/l (4h - EU method B.2)

Skin corrosion/irritation: rabbit, Similar to: OECD 404. Not irritating
pH: 4.2 - 4.8

Serious eye damage/irritation: Not irritating. rabbit, Similar to: OECD 405
pH: 4.2 - 4.8

Respiratory or skin sensitisation: Did not cause sensitisation. mouse, LLNA, OECD 429

Germ cell mutagenicity: Negative. OECD 471. OECD 476. OECD 473

Carcinogenicity: No data available

Reproductive toxicity: NOAEL: > = 1500 mg/kg bw/day (rat, oral, 28 days, OECD 422)

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

MONOAMMONIUM PHOSPHATE (7722-76-1)

NOAEL (oral, rat, 90 days) 250 mg/kg bodyweight/day (OECD 422)

Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - water: This product does not present any particular risk for the environment.

MONOAMMONIUM PHOSPHATE (7722-76-1)

LC50 fishes 1: > 85.9 mg/l (96) Oncorhyncus Mykiss, OECD 203
EC50 Daphnia 1: 1790 mg/l (72h - Daphnia Carinata, APHA)
ErC50 (algae): > 100 mg/l (Pseudokirchnerella subcapitata, OECD 201)
NOEC chronic algae: 100 mg/l Pseudokirchnerella subcapitata, OECD 201

12.2. Persistence and degradability
MONOAMMONIUM PHOSPHATE (7722-76-1)
Persistence and degradability: Not relevant. (inorganic substance).

12.3. Bioaccumulative potential
MONOAMMONIUM PHOSPHATE (7722-76-1)
Bioaccumulative potential: small.

12.4. Mobility in soil
MONOAMMONIUM PHOSPHATE (7722-76-1)
Ecology - soil: No data available.

12.5. Results of PBT and vPvB assessment
MONOAMMONIUM PHOSPHATE (7722-76-1)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects
Other adverse effects: No.
Additional information: Phosphates are plant nutrient and as such may contribute to the growth of phytoplanktons in water.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods: Dispose in a safe manner in accordance with local/national regulations.

Additional information: Empty packaging can have residues or dusts and are subject to proper waste disposal, as above.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
Not regulated for transport
MONOAMMONIUM PHOSPHATE
Safety Data Sheet
according to Regulation (EC) No. 453/2010

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group
Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
14.6.1. Overland transport
14.6.2. Transport by sea
14.6.3. Air transport
14.6.4. Inland waterway transport
Carriage prohibited (ADN) : No
Not subject to ADN : No
14.6.5. Rail transport
Carriage prohibited (RID) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
No REACH Annex XVII restrictions
PHOSPHATE MONOAMMONIQUE is not on the REACH Candidate List
Contains no substance on the REACH candidate list
MONOAMMONIUM PHOSPHATE is not on the REACH Annex XIV List
Contains no REACH Annex XIV substances
Other information, restriction and prohibition regulations : Not required.
15.1.2. National regulations

Germany
Water hazard class (WGK) : 1 - low hazard to waters

15.2. Chemical safety assessment

No

SECTION 16: Other information

Indication of changes:

<table>
<thead>
<tr>
<th>pH</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,2 - 4,8</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations and acronyms:

- ADN: European Agreement concerning international carriage of Dangerous goods by Inland waterways
- ADR: European Agreement concerning international carriage of Dangerous goods by Road
- AF: Assessment factor
- BCF: Bioconcentration factor
- Bw: Body weight
- CAS: Chemical Abstracts Service
- CLP: Classification, labelling, packaging
- CSR: Chemical Safety Report
- DMEL: Derived maximum effect level
- DNEL: Derivative No effect Level
- EC: European Community
- ELV: Emission limit values
- EN: European Norm
- EUH: European Hazard Statement
- EWC: European Waste catalogue
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organization
- IMDG: International Maritime Dangerous Goods
- LC50: Median lethal concentration
- LD50: Median lethal dose
- NOAEL: No-observed-adverse-effect-level
- NOEC: No observed effect concentration
- NOEL: No observed effect level
- OEL: Operator exposure level
- PBT: Persistent, bioaccumulative, Toxic
- PEC: Predicted effect level
- PNEC: Predicted No effect Concentration
- REACH: Registration, evaluation and autorisation of chemicals
- RID: Regulations concerning the international carriage of dangerous goods by rail
- STEL: Short Term Exposure Limit
- TWA: Time weighted average
- vPvB: Very persistent, very bioaccumulative

Data sources: Reach dossier.
Training advice: None.

SDS EU (REACH Annex II) (Prayon)

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