



SAFETY DATA SHEET
According to 29 CFR 1910.1200

**MONOAMMONIUM PHOSPHATE
MAP**

Date of issue: July 01, 2009 Revision date: September 01, 2023 Version: 5

SECTION 1.- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product form Mixture.
Substance name Monoammonium phosphate (MAP)
CAS No. 7722-76-1
Formula $(\text{NH}_4)\text{H}_2\text{PO}_4$
Synonyms Ammonium dihydrogen phosphate / Ammonium dihydrogenorthophosphate / Phosphoric acid, monoammonium salt / Ammonium dihydrogenphosphate / Ammoniumorthophosphate, monobasic / Ammonium dihydrogen orthophosphate.

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

Use of the substance/mixture Fertilizers, agricultural product.

1.3 Details of the supplier of the safety data sheet

| | |
|--|---|
| Pima Chemicals & Fertilizers, LLC 1370 Nogales, Az. Tel. 011 52 (662) 182-0559 rgutierrez@qpima.com | Química Pima, S.A. de C.V. Del Cobre 20, Parque Industrial Hermosillo. Hermosillo, Sonora, México. C.P. 83297 Tel. 011 (662) 251-0010 ventas@qpima.com |
|--|---|

1.4 Emergency telephone number

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

SECTION 2.- HAZARD IDENTIFICATION

2.1. GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2B H320
STOT SE 3 H335

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



GHS07

Signal word (GHS-US):

Warning

Hazard statement (GHS-US):

H315 Causes skin irritation.
H320 Causes eye irritation.
H335 May cause respiratory irritation.

Precautionary statements (GHS-US):

P261 Avoid breathing dust.
P264 Wash exposed skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with plenty of water.
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.



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P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing.

P312 Call a poison center/doctor if you feel unwell.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash it before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

Hazardous to the aquatic environment. No additional information is available.

2.4 Unknown acute toxicity (GHS-US)

Not applicable.

SECTION 3.- COMPOSICION / INFORMATION OF INGREDIENTS

3.1 Substance Not applicable

3.2 Mixture

Substance type Mono-constituent.

| Name | Product identifier | % | GHS-US classification |
|---|---------------------|------|---|
| Monoammonium phosphate as P ₂ O ₅ | (CAS No.) 7722-76-1 | 61.0 | Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335 |
| Total Nitrogen, as N. | --- | 12.0 | --- |

Full text of H-phrases: see sector 16.

SECTION 4.- FIRST AID MEASURE

4.1. Description of first aid measure

First-aid measures general

If medical advice is needed, have product container or label at hand.

First-aid measures after eye contact

Immediately rinse with water for a prolonged period while holding the eyelids wide open. Obtain medical attention if irritation develops or persists.

First-aid measures after skin contact

Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists.

First-aid measures after inhalation

If inhaled, remove from source of exposure to dusts to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists. Persons who have inhaled decomposition gases (e.g. in a fire) should obtain immediate medical attention.

First-aid measures after ingestion

Do not induce vomiting. Seek medical attention if a large amount is swallowed. Get medical advice and attention if you feel unwell (or if a large amount of MAP is ingested [small children, more than 50 g]) Drink large amounts of water (or milk if available) to dilute stomach contents. Ingestion of small quantities is unlikely to cause toxic effects.

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

Symptoms/injuries after inhalation

Difficulty in breathing. Dry/sore throat. Symptoms may be delayed.

Symptoms/injuries after skin contact

May cause skin irritation.



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Symptoms/injuries after eye contact

May cause eye irritation.

Symptoms/injuries after ingestion

If a large quantity has been ingested: Abdominal pain. Diarrhea. Nausea. Vomiting.

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

No additional information available.

SECTION 5.- FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media Chemical type foam, Carbon Dioxide (CO₂), dry chemical, and water fog.

Unsuitable extinguishing media None known.

5.2. Special hazard arising from the substance or mixture

Fire hazard MAP is a non-flammable inorganic salt and is not flammable; however, if involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition: Ammonia.

Explosion hazard Product is not explosive.

Reactivity Stable at ambient temperature and under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions Keep personnel removed from and upwind of fire. When strongly heated, MAP will decompose giving off ammonia.

Protective during firefighting Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Other information Do not allow run-off from firefighting to enter drains or water courses.

SECTION 6.- ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment Wear suitable protective clothing, gloves, and eye/face protection. Wear tight-fitting goggles in dusty areas to reduce dust exposure to the eyes.
If skin irritation occurs, wear long sleeves.

Emergency procedures Collect as any solid. Ventilate area.

6.1.2. For emergency responders

Protective equipment Wear suitable protective clothing, gloves, and eye/face protection.

Emergency procedures If possible, stop flow of product. Contain and collect as any solid. Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up.

Method for containment If contaminated with other materials, contain and collect any solid in suitable containers. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected. Prevent large quantities from contacting vegetation.



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Methods for cleaning up

Recover the product by vacuuming, shoveling, or sweeping and place it in appropriate container to be disposed at an appropriate disposal facility according to current applicable laws and regulations and product characteristics at the time of disposal. Provide adequate ventilation. Avoid generation of dust during clean-up of spills. If uncontaminated, recover and reuse product. Practice good housekeeping – spillage can be slippery on smooth surfaces either wet or dry.

6.4 Reference to other sections

No additional information available.

SECTION 7.- HANDLING AND STORAGE

7.1. Precautions for safe handling

Precautions for safe handling

When heated, the material emits irritating fumes. Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Do not eat, drink, or smoke when using this product. Emergency eye wash fountains and a safety shower should be available near any potential exposure.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store tightly closed in a dry, cool, and well-ventilated place. Protect from moisture.

Incompatible products

Strong acids.

Incompatible materials

Alkalis and caustic products. Strong acids. Copper and its alloys.

7.3 Specific end use(s)

Agricultural chemical.

SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

| Name | ACGIH TWA | OSHA PEL | NIOSH IDLH |
|-------------------------------------|--|--|----------------|
| Monoammonium phosphate 7722-76-1 | 10 mg/m ³ – inhalable fraction 3 mg/m ³ - respirable fraction | 15 mg/m ³ – particulate 3 mg/m ³ - respirable | Not available. |

8.2. Exposure controls

Personal protective equipment

Gloves. Safety glasses. Protective clothing.

Hand protection

Impermeable protective gloves.

Eye protection

Protective goggles.

Skin and body protection

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wear suitable protective clothing. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practices.

Respiratory protection

Wear NIOSH approved respiratory protective equipment when exposure exceeds the OSHA nuisance dust standard of 15 mg/m³ or the ACGIH nuisance dust limit of 10 mg/m³ for the eight-hour time weighted average. When stored in a closed area, a self-contained breathing apparatus is required to protect against ammonia gas.

Other information

Ensure adequate ventilation, especially in confined areas.

SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:

Solid.

Appearance:

Granular solid.



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| | | | |
|--|-----------|---|------------------|
| Odor: | Odorless. | Color: | White. |
| Molecular mass | | 74.55 g/mol | |
| Odor threshold | | No data available. | |
| pH | | 4.2 | |
| pH solution | | 0.2 M at 25°C | Aqueous solution |
| Relative evaporation rate (butyl acetate=1) | | No data available. | |
| Melting point | | 190°C (374°F) | |
| Freezing point | | No data available. | |
| Boiling point | | Decomposes | |
| Flash point | | Not applicable. | |
| Self-ignition temperature | | Not flammable. | |
| Decomposition temperature | | No data available. | |
| Flammability (solid, gas) | | Not flammable. | |
| Vapor pressure | | < 1 mmHg (at 20°C) | |
| Relative vapor density at 20°C | | No data available. | |
| Relative density | | No data available. | |
| Density | | 60-64 lb/ft ³ (loose) 65-72 lb/ft ³ (tamped) | |
| Solubility | | Soluble in water. Water: 328 g/l (at 20°C) | |
| Log Pow | | No data available. | |
| Log Kow | | No data available. | |
| Viscosity, kinematic | | No data available. | |
| Viscosity, dynamic | | No data available. | |
| Explosive properties | | Not explosive. | |
| Oxidizing properties | | Not oxidizing. | |
| Explosive limits | | No data available. | |

9.2 Other information

No additional information available.

SECTION 10.- STABILITY AND REACTIVITY

| | |
|--|--|
| 10.1 Reactivity | Stable at ambient temperature and under normal conditions of use. |
| 10.2 Chemical stability | Stable at standard temperature and pressure. |
| 10.3 Possibility of hazardous reactions | Hazardous polymerization will not occur. |
| 10.4 Conditions to avoid | Welding or hot work on equipment or plants which may have contained fertilizer should not be done without first washing thoroughly to remove all fertilizer. |
| 10.5 Incompatible materials | Alkalis and caustic products; strong acids; copper and its alloys. |
| 10.6 Hazardous decomposition products | Ammonia is released upon reaction with strong bases or from thermal decomposition. |



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SECTION 11.-TOXICOLOGICAL INFORMATION

11. 1. Information on toxicological effects

Acute toxicity Not classified.

| Name | LD ₅₀ oral | LD ₅₀ dermal | LC ₅₀ inhalation |
|------------------------|-----------------------|-------------------------|-----------------------------|
| Monoammonium phosphate | 5750 mg/kg (rat) | 7940 mg/kg (rabbit) | - |

Skin corrosion/irritation Causes skin irritation. pH: 4.2 (0.2 M solution)
 Serious eye damage/irritation Causes eye irritation. pH: 4.2 (0.2 M solution)
 Respiratory or skin sensitization Not classified.
 Germ cell mutagenicity Not classified.
 Carcinogenicity Not classified.
 Reproductive toxicity Not classified.
 Specific target toxicity (single exposure) May cause respiratory irritation.
 Specific target toxicity (repeat exposure) Not classified.
 Aspiration hazard Not classified.
 Potential adverse human health effects and symptoms Not classified.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Monoammonium phosphate (7722-76-1)

Acute toxicity to fish: (Oncorhynchus mykiss) 96-hr: LC50 = > 85.9 mg/L

12.2 Persistence and degradability

Monoammonium phosphate (7722-76-1)

Persistence and degradability The Phosphorus cycle is well understood. Phosphates are converted to calcium or iron/aluminum phosphates or are incorporated with the organic soil matter.

12.3 Bioaccumulative potential

Monoammonium phosphate (7722-76-1)

Bioaccumulative potential Not established.

12.4 Mobility in soil Stable

12.5 Other adverse effects

Other information Inorganic phosphates have the potential to increase the growth of freshwater algae, whose eventual death will reduce the available oxygen for aquatic life.

SECTION 13.- DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste disposal recommendations This material is hazardous to the aquatic environment. Keep out of sewers and waterways. Place in an appropriate container and dispose of the contaminated material at a licensed site.

Ecology-waste materials Dispose of waste material in accordance with all local, regional, national, and international regulations.



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SECTION 14.- TRANSPORT INFORMATION

| | |
|-------------------------------|--|
| 14.1. UN number | No dangerous good in sense of transport regulations. |
| 14.2. UN proper shipping name | Not applicable. |
| 14.3. Additional information | |
| Other information | No supplementary information available. |
| Overland transport | No additional information available. |
| Transport by sea | No additional information available. |
| Air transport | No additional information available. |

SECTION 15.- REGULATORY INFORMATION

15.1 US Federal regulations

Monoammonium phosphate (7722-76-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

| | |
|-------------------------------------|---------------------------------|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
|-------------------------------------|---------------------------------|

15.2 International regulations

CANADA

Monoammonium phosphate (7722-76-1)

Listed on the Canadian DSL (Domestic Substances List) inventory.

| | |
|----------------------|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
|----------------------|---|

SECTION 16.- OTHER INFORMATION

| | | | | | | | | |
|-----------------|--------------------|---|------------------|---|-------------------------|---|---------------------|---|
| NFPA | NFPA health hazard | 1 | NFPA fire hazard | 0 | NFPA instability hazard | 0 | NFPA Special hazard | - |
| HMIS III | Health | 1 | Flammability | 0 | Physical | 0 | Personal Protection | C |

C Safety glasses, gloves, and protective clothing.



Other information: Eye Irrit. 2: Serious eye damage/eye irritation Category 2. Skin Irrit. 2B: Skin corrosion/irritation Category 2B. STOT SE 3: Specific target organ toxicity (single exposure). H335: May cause respiratory irritation. H315: Causes skin irritation. H320: Causes eye irritation.

Made for: Quimica Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

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September 01, 23. Version 5. Syntax and spelling improvements and corrections were made.

IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and applied to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

End of Safety Data Sheet