

## Material Safety Data Sheet

### Mono-Ammonium Phosphate

Section 1 - Chemical Product and Company Identification	
<b>Product Name</b>	<b>MSDS No.</b>
Mono-Ammonium Phosphate, MAP, 11-52-0	0003
<b>Chemical Name</b>	<b>Version No.</b>
Ammonium Phosphate Monobasic	02
<b>Chemical Formula</b>	
(NH <sub>4</sub> )H <sub>2</sub> PO <sub>4</sub>	
<b>Material Primary Use</b>	<b>Next Revision</b>
Fertilizer	September, 2023
<b>Synonyms</b>	
MAP11-52-0, Ammonium di-hydrogen phosphate, Fertilizer Grade Ammonium Phosphate, Granular MAP	
<b>Company Identification</b>	
Maaden Phosphate Company P.O Box 1110 Jubail 31961 KSA	
<b>Emergency Contact</b>	<b>For Information</b>
+966-13-342-6666	+966-3-342-6688 cc@maaden.com.sa

## Section 2 - Composition, Information on Ingredients

Chemical Name	CAS No	Percent
Mono-Ammonium Phosphate	7722-76-1	100

## Section 3 – Physical and Chemical Properties

<b>Physical State</b>	Solid (crystalline granules)	<b>Molecular Weight</b>	115.03
<b>Appearance</b>	Grey, tan, brown or black granules	<b>Solubility</b>	Soluble
<b>Odor:</b>	Odorless	<b>Boiling Point</b>	N/A
<b>pH:</b>	4.2 - 5.2	<b>Melting Point</b>	190 °C
<b>Vapor Pressure (kPa)</b>	N/A	<b>Vapor Density</b>	N/A
<b>Viscosity</b>	N/A	<b>Evaporation Rate</b>	N/A
<b>Bulk Density</b>	980-1050 kg/m <sup>3</sup>	<b>Specific Gravity</b>	1.82 g/cm <sup>3</sup>

## Section 4 - Hazards Identification

### Emergency Overview

<b>Target Organs</b>	Respiratory system, eye and skin
<b>Toxicity</b>	N/A

### Potential Health Effects

<b>Eye</b>	Contact may cause mild eye irritation including stinging, watering and redness.
<b>Skin</b>	Contact may cause mild irritation including redness and a burning sensation. No harmful effects from skin absorption.
<b>Ingestion</b>	Over-exposure may cause nausea and gastro-intestinal irritation, vomiting, abdominal pain and jaundice.
<b>Inhalation</b>	Over-exposure may cause respiratory tract Irritation, coughing and shortness of breath.
<b>Chronic</b>	N/A


<b>Pre-Existing Medical Conditions</b>	Respiratory(asthma-like) disorders, dermatitis
<b>Potential Environmental Effects</b>	
<b>Environment</b>	MAP is considered biodegradable and is taken up as a nutrient by vegetation. Large spills can harm or kill vegetation. May release ammonium ions in water system that are toxic to fish. May release phosphates which will result in algae growth, increased turbidity and depleted oxygen in water systems.

### Section 5 - First Aid Measures

<b>Eyes</b>	Move victim away from exposure and into fresh air. Remove contact lenses and flush eyes with water for at least 15 minutes, keeping eyelids open .If symptoms persists, seek medical attention.
<b>Skin</b>	Wash with soap and water. Cover dry or irritated
<b>Ingestion</b>	Skin with a good quality skin lotion. If irritation develops and persists after washing, seek medical attention.
<b>Inhalation</b>	If person is conscious, immediately give water or milk. Do not induce vomiting. Seek medical attention. If person is unconscious, do not give anything by mouth.
<b>Antidote</b>	Move patient's to well-ventilated area. If breathing has stopped, start artificial respiration.
<b>Notes to Physician</b>	N/A

### Section 6 - Firefighting Measures

<b>Flammability</b>	Non-Flammable
<b>Explosion Risk</b>	N/A
<b>Auto-Ignition Temperature</b>	N/A
<b>Flash Point</b>	N/A
<b>Flammability Limits</b>	N/A
<b>Products of Combustion</b>	Nitrogen and phosphorus oxides, and ammonia
<b>Fire Incompatibility</b>	

<b>Explosion Hazard in The Presence of Various Substances</b>	Non-explosive
<b>Fire Fighting Media and Instructions</b>	<p>Non-combustible. Use extinguishing media suitable for surrounding fire.</p> <p>Avoid excessive water to minimize runoff.</p> <p>Small Fire: Water spray, foam, dry chemical or CO2</p> <p>Large Fire: Water spray, fog or foam.</p> <p>In the event of a fire, wear full protective clothing and self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.</p>
<b>NFPA Rating</b>	

## Section 7 - Accidental Release Measures

<b>General Information</b>	Non hazardous materials. Stay upwind and away from spill (dust hazard) .Wear appropriate protective equipment, including respiratory protection, as conditions warrants. Slippery when wet.
<b>Small Spills</b>	Collect spilled material and place it in a suitable container for use or disposal.
<b>Large Spills</b>	Stop source of leak. Dike spill to keep out of sewer system or waterways. Collect spilled material and place it in a suitable container for use or disposal.

## Section 8 - Handling and Storage

<b>Handling</b>	Use with adequate ventilation. The use of appropriate protection is advised when concentrations exceed any established exposure limits. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Wash contaminated clothing or shoes. Use good personal hygiene practices.
<b>Storage</b>	Store in a cool dry well-ventilated area. Store only in approved containers. Keep containers tightly closed. Keep away from any incompatible material.

	Protect container(s) against physical damage. Material may absorb moisture from the air. Keep away from heat and flame.
<b>Additional Information</b>	-

## Section 9 - Exposure Controls, Personal Protection

<b>Engineering Controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, use adequate local exhaust or general ventilation to keep exposure to airborne contaminants below the exposure limits.
<b>Personal Protection</b>	Wear appropriate respiratory protection for dust/mist when ventilation is inadequate. A filtering face piece dust mask is recommended for most applications if respiratory protection is needed. Where skin and eye contact may occur as a result of brief periodic exposures, wear long sleeved clothing, coveralls, chemical resistant gloves, and safety glasses with side shields. Wash thoroughly after handling.
<b>Personal Protection in Case of Large Release</b>	Same as above
<b>Exposure Limits</b>	PEL: 5 mg/m <sup>3</sup> (for particulates), Ammonia:25ppm(18 mg/m <sup>3</sup> )TWA;35ppm(27mg/m <sup>3</sup> )STEL

## Section 10 – Personal Protective Equipment

<b>Eyes</b>	Chemical Safety goggles or face shield
<b>Skin</b>	Chemical resistant gloves
<b>Clothing</b>	Protective clothing or coveralls.
<b>Respirators</b>	NIOSH/MSHA-approved respirator

## Section 11 - Stability and Reactivity

<b>Chemical Stability</b>	Stable under normal conditions of storage and handling.
<b>Instability Temperature</b>	Decomposes at 190 °C
<b>Conditions to Avoid</b>	Extreme temperatures
<b>Incompatibilities with Other Materials</b>	Highly reactive with oxidizing agents, acids, alkalis.
<b>Hazardous Decomposition Products</b>	May yield oxides of phosphorus and ammonia if heated to the point of decomposition.
<b>Hazardous Polymerization</b>	Will not occur.
<b>Corrosivity</b>	Corrosive to iron and mild steel, aluminum, zinc, and copper.
<b>Special Remarks</b>	None

## Section 12 - Toxicological Information

<b>Significant Route of Exposure</b>	Ingestion and inhalation
<b>Toxicity to Animals</b>	Used as a general purpose food additive in animal drugs, feeds, and related products. It is generally recognized as safe when used in accordance with good manufacturing and feeding practice.
<b>Chronic Effects on Humans</b>	N/A
<b>Other Effects on Humans</b>	N/A

## Section 13 - Ecological Information

<b>Eco-toxicity</b>	Will release ammonium ions (hazardous to fish) .Un-ionized ammonia concentrations above 0.02 mg/l are considered toxic in fresh water. May release phosphates which will result in algae growth, increased turbidity and depleted oxygen. At extreme high concentrations, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effects downstream.
<b>Degradation</b>	Inorganic mineral salts and oxides.
<b>Environmental Fate</b>	Not toxic
<b>Special Remarks</b>	None

## Section 14 - Disposal Considerations

<b>Waste Disposal</b>	Dispose in a manner consistent with local regulations.
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## Section 15 - Transport Information

<b>DOT/ TDG Classification</b>	Not Controlled
<b>Shipping Name</b>	MONOAMMONIUM PHOSPHATE
<b>Hazard Class</b>	N/A
<b>UN Number</b>	N/A
<b>Packing Group</b>	N/A
<b>Special Provisions</b>	None
<b>Additional information</b>	None

## Section 16 – Additional Information

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