Material Safety Data Sheet

Martrex, Inc.

Section 1: Chemical Product and Company Information

Product name: Monoammonium Phosphate Ag Grade 11-52-0
Reference Number: MAP Ag Grade 11-52-0
Web: www.martrexinc.com
Supplier/ Further Information: Martrex, Inc.

P. O. Box 1709
14525 Highway 7
Minnetonka, Minnesota 55345-3793

Phone: 952/933-5000
Toll Free: 800/328-3627
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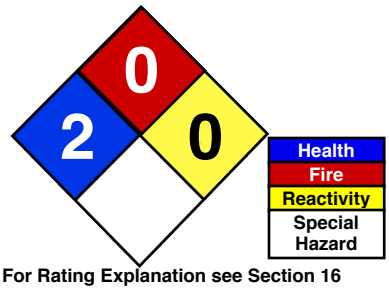
EPA Registration Number: n/a
CAS#: 7722-76-1
Chemical Name: Monoammonium Phosphate
Synonyms: Ammonium Phosphate, Monobasic; Monoammonium Phosphate; MAP Ag Grade 11-52-0
Chemical Family: Inorganic Chemical
MSDS Number: n/a



For Rating Explanation see Section 16

24 Hour Emergency Phone - Chemtrec Transport: 1-800-424-9300; Medical: 1-800-441-3637

Section 2: Composition/Information on Ingredients

Component	SARA Listed Hazardous?	CAS#	%	RTECS#	Other Limits
1. MAP $(NH_4)H_2PO_4$	no	7722-76-1	100%	no data	See Section 15

Component	OSHA PEL	OSHA STEL	OSHA CEIL	ACGIH TLV	ACGIH STEL	ACGIH CEIL
1. (continued)	no data	no data	no data	10 mg/m^3 Nuisance Dust	no data	no data

Section 3: Hazards Identification

Emergency Overview: Minimal hazard under normal conditions and use.
NFPA: Health: 2 Flammability: 0 Reactivity: 0 Special: no data
Potential Health Effects:

Primary Routes of Exposure / Entry: Skin contact, Inhalation, Eye contact.

Target Organs: Skin, lungs, eyes

Acute Exposure Symptoms

Inhalation: Inhalation of vapors or mist may be irritating to the respiratory tract.

Eye Contact: Dusty conditions may cause mechanical aggravation to respiratory mucous membranes. Dust from this product may cause particulate discomfort to eyes.

Skin Contact: Slight dermal abrasion is possible with prolonged contact, especially around cuffs and collars. Not normally absorbed through the skin.

Ingestion: Minimal hazard under normal conditions and use. Ingestion of large quantities may cause gastro-intestinal discomfort, diarrhea, vomiting, weakness or other medically related problems. Seek medical attention.

Chronic Exposure Symptoms:

Inhalation: Long-term exposure may cause irritating to the respiratory tract.

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Skin: Long-term exposure may cause irritation of the skin.
Medical Conditions Aggravated By Long-Term Exposure: Respiratory Disease and Dermal related medical conditions. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
Carcinogenicity Data:
NTP: No **OSHA:** No **IARC Monograph:** No **Not Listed:**
Also See: Section 11 for more Toxicological information

Section 4: First Aid Measures

Inhalation: Remove to fresh air. If breathing becomes difficult, oxygen may be given, preferably with a physician's advice. If not breathing, give artificial respiration. **Get medical attention.**
Eye Exposure: Flush eyes with large quantities of running water for a minimum of 15 minutes. If victim is wearing contact lenses, remove them. Hold eyelids apart during the flushing to ensure rinsing of entire surface of the eye and lids with water. **DO NOT let victim rub eye(s)**. Do not attempt to neutralize with chemical agents. Oils/ointments should not be used at this time. **Get medical attention**.
Skin Exposure: In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. **Seek medical attention**. Remove contaminated clothing and shoes before reuse or discard if they cannot be thoroughly cleaned.
Ingestion: If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Never give anything to eat or drink to someone who is unconscious, having convulsions, or unable to swallow. **Seek immediate medical attention.** Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.
NOTE TO THE PHYSICIAN: Consult standard literature. Treatment based on the sound judgment of the physician and the individual reactions of the patient.

Section 5: Fire Fighting Measures

Flammability Classification:
A Flash Point: Non-flammable
Auto-ignition Temperature: no data
LEL (Lower explosion limit)**:** no data
UEL (Upper explosion limit)**:** no data
Extinguishing Media: Not combustible. Use extinguishing method suitable for surrounding fire.
Unusual Fire and Explosive Hazards: Thermal decomposition products may be hazardous.
Hazardous Decomposition Materials: During extremely high temperatures fire conditions, the product may reach melting point and decompose to release NH_3, NO_X, PO_X
Personal Protective Equipment: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing
Fire-Fighting Instructions: Keep personnel removed from and upwind of fire; isolate hazard area and deny entry. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Special Procedures: Thermal decomposition products may be hazardous: ammonia fumes, phosphorus oxides and nitrogen oxides.

Section 6: Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill: Keep unnecessary people away; isolate hazard area and deny entry.
Spill and Leak Personal Procedures: Wear appropriate protective chemical resistant clothing and chemical resistant gloves to prevent skin contact. Consult the glove/clothing manufacturer to determine the appropriate type glove/ clothing for a given application. Wear chemical goggles, and a face shield

Containment of Spill:
Dike or retain dilution water or water from fire fighting for later disposal. Sweep or vacuum up and place in an appropriate closed container. Clean up residual material by washing area with water and detergent. **DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER.** Prevent material from entering public sewer system or any waterways. Runoff from fire control or dilution water may cause pollution.

Cleanup and Disposal of Spill: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. **Be advised:** state/local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state/local regulations regarding proper disposal of material.

Environmental and Regulatory Reporting: See Section 13 for disposal information and Sections 14 and 15 for regulatory requirements.

Section 7: Handling and Storage

Precautions to be taken in handling and storing:
Avoid direct of prolonged contact with skin and eyes. Keep containers closed when not being used. Store in closed containers. This product is hygroscopic and tends to cake in storage. Store in a cool, dry area. Prevent spillage and separate from strong oxidizers. Use normal safety procedures and good personal hygiene. Keep out of the reach of children.

Section 8: Exposure Controls / Personal Protection

Ventilation Protection: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

Respiratory Protection (specify type)**:** Approved dust respirator when necessary. When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the latest OSHA standard (29 CFR 1910.134) and/or ANSI Z88.2 recommendations.

Eye Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

Skin Protection: Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e. shirts and pants). Consideration must be given to both to durability as well as permeation resistance.

Other Protective Clothing and Equipment: Minimize breathing dust. Avoid prolonged or repeated breathing of dust and contact with skin. Remove contaminated clothing; launder before reuse. Cleanse skin thoroughly after contact, before meals and end of work period.

Hygienic Work Practices: All food / smoking materials should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, drinking or smoking, hands and face should be thoroughly washed. Facilities storing or using this material should be equipped with an eyewash and safety shower.

Section 9: Physical and Chemical Properties

Chemical Name: Ammonium Phosphate, Monobasic
Percent Equivalent (11-52-0)**:** 100%
Physical State: solid
Color and Appearance: White solid crystal
Odor: odorless
Odor Threshold: n/a
pH: n/a
Specific Gravity (@ 25ºC)**:** 1.8
Vapor Pressure(mm/hg)**:** n/a
Vapor Density (air=1)**:** n/a

Density: 63 lbs/ft^3
Bulk Density: n/a
Volatiles by Volume: n/a
Boiling Point: Decomposes 330ºF
Softening Point: n/a
Freezing Point: n/a
Evaporation Rate: n/a
Solubility in water: Soluble - 29.4 wt/wt at 77ºF
Reaction with Water: None
Viscosity: n/a
Other Solubilities: n/a
Chemical Formula: $(NH_4)H_2PO_4$
Formula Wt: 115.03
NOTE: These physical data are typical values, based on material tested, and may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as a specification for the product.

Section 10: Stability and Reactivity

Chemical Stability (under normal conditions of storage, handling, use)**:** Stable__X__ Unstable____
Hazardous Polymerization: Polymerizes under extremely high temperature, liberating ammonia.
Conditions to Avoid: Extremely high temperature; Hygroscopic; protect from moisture; strong oxidizing agents
Chemical Incompatibility: Strong Oxidizing agents. Reacts with alkali to liberate ammonia. Ammonium salts react with sodium hypochlorite to form nitrogen Trichloride which decomposes explosively. Aqueous solutions are corrosive to mild steel.
Hazardous Decomposition Products: During extremely high temperatures fire conditions, the product may reach melting point and decompose to release NH_3, NO_X, PO_X

Section 11: Toxicological Information

Acute Dermal Toxicity: LD_{50} (rat) is greater than 5,000 mg/kg (ppm); not acutely toxic by dermal exposure. (TFI Product Testing Results, OECD Guideline 402).
Acute Oral Toxicity: LD_{50} (rat) is greater than 2,000 mg/kg (ppm); not acutely toxic by oral exposure. (TFI Product Testing Results, OECD Guideline 425)
Acute Fish Toxicity: 96-hour LC_{50} is greater than 85.9 mg/L (ppm); low acute toxicity. (TFI Product Testing Results, OECD Guideline 203)

Section 12: Ecological Information

EPA Ecotoxicity rating: No data found for product.
Acute Toxicity: No data
Chronic Toxicity: No data
Environmental Fate
Stability in Water: No data
Stability in soil: No data
Transport and Distribution: No data
Biological Oxygen Demand(BOD5): No data
Chemical Oxygen Demand: No data.
Activated Sludge Respiration Inhibition Test: No data
Degradation products
Biodegradation: No data found for product.
Photo Degradation: No data found for product.

Section 13: Disposal Considerations

Disposal Procedures: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Be advised that state/local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state/local regulations regarding proper disposal of material.
RCRA Hazardous Waste Number: no data
Best demonstrated available treatment: no data
Container Cleaning And Disposal: Be advised that state/local requirements for container disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state/local regulations regarding proper disposal of container.
Disposal Regulatory Requirements: Dispose of in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

Section 14: Transport Information

	USDOT	TDG - Canada
Proper Shipping Name:	Monoammonium Phosphate	Monoammonium Phosphate
Hazard Class:	not regulated by DOT	no data
Hazard Identification Number:	not regulated by DOT	no data
Packing Group:	not regulated by DOT	no data
Transport Labeling/Placarding:	not regulated by DOT	no data
Reportable Quantity/ Reportable Limit:	not regulated by DOT	no data
Notes:	no data	

Section 15: Regulatory Information

TSCA: Yes
DSL (Canadian)**:** Yes
EPA Regulations:
TSCA 8(d) inventory: No
RCRA Hazardous Waste Number: No
CERCLA Hazardous Substance: No
CERCLA Reportable Quantity (RQ): no data
SARA 311/312 Codes: Acute: Yes Chronic: No
SARA (Hazard Categories Title III rules): no data
SARA 313 Toxic Chemical: no data
SARA 302 EHS: This product does not contain ingredients listed in Appendix A and B as Extremely Hazardous substances.
SARA 302 EHS Threshold Planning Quantity: no data
OSHA Regulations: This product does NOT contain any products considered hazardous under the Federal OSHA HazCom. Standard 29 CFR 1910.1200.
OSHA: TWA = no data
ACGIH: TWA = no data
State Regulations: Since state and local laws vary, consult your attorney or appropriate regulatory officials for information relating to spill reporting.

Section 16: Other Information

ACGIH - American Conference of Governmental Industrial Hygienists
ANSI - American National Standards Institute
CAS - Chemical Abstracts Service
CERCLA - Comprehensive Environmental Response, Compensation & Liability Act of 1980
CFR - Code of Federal Regulations
CHEMTREC - Chemical Transportation Emergency Center
DOT - U.S. Department of Transportation
DSL - Canadian Domestic Substance List
EHS - Extremely Hazardous Substance

NFPA Rating Explanation Guide

Rating Number	Health Hazard	Flamibility Hazard	Instability Hazard
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable
0	No Hazard	Will not burn	Stable

Rating Symbol	Special Hazard
ALK	Alkaline
ACID	Acidic
BIO	BioHazard
COR	Strong Corrosive
CRYO	Cryogenic
OXY	Oxidizer
☢	Radioactive
W	Reacts violently or explosively with water
W OX	Reacts violently or explosively with water or oxidizer

This chart for reference only - For complete specifications consult the NFPA Standard

EPA - U.S. Environmental Protection Agency
HMIS - Hazardous Material Identification System
IARC - International Agency for Research on Cancer
LEL/UEL - Lower and Upper Explosive Limit
mg/m³ - Milligrams per cubic meter
MSDS - Material Safety Data Sheet
NAERG - North American Emergency Response Guidebook
NIOSH - National Institute of Occupational Safety and Health
NFPA - National Fire Protection Association NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit (set by OSHA)
PPE - Personal Protective Equipment
RCRA - Resource Conservation and Recovery Act of 1976
SARA - Superfund Amendments and Reauthorization Act
TDG (Canadian)**:** Transport of Dangerous Goods Regulations
TLV - Threshold Limit Value (set by ACGIH)
TWA - Time weighted average
TSCA - US Toxic Substance Control Act
WHMIS - US Workplace Hazardous Material Information System

MSDS Issue Date: n/a
Revised Date: 10-25-11
Supersedes: n/a

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