SAFETY DATA SHEET
(according to (EC) 1907/2006)

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

1.1. Product identifier
   Ammonium Phosphate Monobasic

   Synonyms:
   Ammonium acid phosphate Ammonium biphosphate Monoammonium dihydrogen phosphate

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Not applicable

1.3. Details of the supplier of the safety data sheet

   Manufacturer Information:
   Vertellus LLC
   P.O. Box 730,
   Delaware Water Gap, PA
   800-344-3426

   Non-Emergency Phone Number: 800-344-3426
   Non-Emergency Fax Number: 570-421-9012
   E-Mail Address: msds@vertellus.com

1.4. Emergency telephone number

   Vertellus: 800-344-3426
   CHEMTREC (USA): (800) 424-9300
   (collect calls accepted); (Int'l): (703) 527-3887
   (collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
   (According to Regulation (EC) No 1272/2008)
   Acute Toxicity Oral Category 1

   Signal Word:
   Danger

   Hazard Precautions:
   H300 - Fatal if swallowed.

2.2. Label elements
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Hazard Symbols (Pictogram):

Prevention Precautions:
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

First Aid Precautions:
P330 - Rinse mouth.
P321 - Specific treatment (see supplemental information on this label).
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage Precautions:
P405 - Store locked up.

Disposal Precautions:
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

Single Exposure Target Organs:
Not applicable

Repeated Exposure Target Organs:
Not applicable

(According to Directive 67/548/EEC)
Symbol: Not classified as hazardous under this directive.
Risk Phrases: Not classified as hazardous under this directive.
Safety Phrases: Not classified as hazardous under this directive.

2.3. Other hazards

Signs and Symptoms of Potential Overexposure:
Coal tar vapors are irritating to the skin, eyes and respiratory tract. Causes respiratory tract irritation

Primary Route(s) of Exposure:
Skin contact and absorption, eye contact, ingestion, inhalation.

Medical Conditions Aggravated by Exposure:
No data found

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
<th>EINECS / ELINCS</th>
<th>EU Symbol</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Phosphate Monobasic</td>
<td>7722-76-1</td>
<td>10000%</td>
<td>231-764-5</td>
<td>N/A</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
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NOTE: See Section 8 of this MSDS for exposure limit data for these ingredients. See Section 15 of this MSDS for trade secret information (where applicable). See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.
Eye Contact: Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. GET MEDICAL ATTENTION. Flush eyes with water for at least 15 minutes; if irritation occurs seek medical attention.
Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. Get medical attention immediately.
Ingestion: If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

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

Acute: Coal tar vapors are irritating to the skin, eyes and respiratory tract. Causes respiratory tract irritation

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

Thermal Exposure: Not applicable.
Note to Physician: No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Dry chemical Water spray Carbon dioxide Alcohol foam

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: None Known
Potential for Dust Explosion: Not known to be sensitive to mechanical impact or static discharges.
Special Flammability Hazards: Not applicable.

5.3. Advice for firefighters

Basic Fire Fighting Guidance: Evacuate area and fight fire from a safe distance. As in any fire, wear pressure-demand self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear. Use NIOSH approved chemical cartridge-respirator or self-contained breathing apparatus. Material will burn in a fire.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Special Instructions: Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions
Prevent releases to soils, drains, sewers, and waterways.

6.3. Methods and material for containment and cleaning up
Containment Techniques and Clean-up Procedures: LARGE SPILLS: Shut off leak if safe to do so. Contain spilled liquid with sand clay. DO NOT use combustible materials such as sawdust. Retain all contaminated water for treatment.
Special Reporting Requirements: Not applicable.

6.4. Reference to other sections
Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for Unique Hazards: Not applicable.
Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material.
Special Handling Equipment: Not applicable.

7.2. Conditions for safe storage, including any incompatibilities
Storage Precautions & Recommendations: Keep container closed when not in use.
Dangerous Incompatibility Reactions: Strong acids. Strong alkalies Keep away from halocarbons, halogens, combustible materials and oxidizing agents.
Incompatibilities with Materials of Construction: none known

7.3. Specific end use(s)
If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer
SAFETY DATA SHEET

to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure Limits (United States): OSHA PEL: Not established ACGIH TLV: Not established
Exposure Limits (UK): Not established

8.2. Exposure controls
Also see the annex to this SDS (if applicable) for specific exposure scenario controls.
Personal Protective Equipment: Use chemical goggles, faceshields, boots and impervious clothing, if conditions involve potential for splashing or spraying. Chemical goggles; face shields if necessary.
Ventilation: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided. Use process enclosures to control the level of dust in the air. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. Local exhaust ventilation is recommended when generating excessive levels of vapors from handling or thermal processing. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, the work atmosphere may be deficient of oxygen, or any other circumstances where air purifying respirators may not provide adequate protection, for example, when air purifying respirators have a short breakthrough time. If an exposure limit is exceeded provide respiratory protection.
Other Engineering Controls: All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.
Thermal Hazards: Not applicable.
Additive or Synergistic Effects: None known.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Appearance, State & Odor (ambient temperature): Crystals Essentially odorless
Molecular Formula: Not applicable
Vapor Pressure: Not applicable
Specific Gravity or Density: 1.80000000
Boiling Point: Not applicable
Solubility in Water: lg/2.5ml
Molecular Weight: Not applicable
Evaporation Rate: Not applicable
Vapor Density (air = 1): Not applicable
Freezing / Melting Point: Code: Code:
Octanol / Water Coefficient: Not applicable
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pH:  
Viscosity:  Not applicable  
Flash Point and Method:  (Not applicable) (Not applicable)  
Odor Threshold:  Not applicable  
Autoignition Temperature:  Not applicable  
Flammable Limits:  Not applicable (LEL) – Not applicable (UEL)

9.2. Other information
Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity
Not classified as dangerously reactive.

10.2. Chemical stability
Stable

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur

10.4. Conditions to avoid
Avoid static discharge and uncontrolled exposure to high temperatures. Ferrous metals. Do not allow oil soaked materials to dry.

10.5. Incompatible materials
Strong acids. Strong alkalies Keep away from halocarbons, halogens, combustible materials and oxidizing agents.

10.6. Hazardous decomposition products
Products of incomplete combustion may include CO, CO2, NOx, and dense smoke.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD₅₀:  Oral LD50 (mouse) 2 mg/kg
Acute Dermal LD₅₀:  Dermal LD50 (rabbit) > 7940 mg/kg
Acute Inhalation LC₅₀:  Not available.
Skin Irritation:  No data available.
Skin Sensitization:  No data available.
Eye Irritation:  No data available.
Target Organs:  No data available.
Carcinogenicity:  No data available.
Teratogenicity:  No data available.
Reproduction:  No data available.
Neurotoxicity:  No data available.
Mutagenicity:  No data available.
Additional Toxicity Information:  Not available.
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SECTION 12: Ecological information

12.1. Toxicity
Code:

12.2. Persistence and degradability
No data No data available.

12.3. Bioaccumulative potential
No data

12.4. Mobility in soil
No data

12.5. Results of PBT and vPvB assessment
Not available.

12.6. Other adverse effects
No data available. Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
US EPA Waste Number: Not applicable

Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

14.1. UN number
Not applicable

14.2. UN proper shipping name
Chemicals, n.o.s. (Ammonium Phosphate Monobasic)

14.3. Transport hazard class(es)
Not applicable

14.4. Packing group
Not applicable

14.5. Environmental hazards
Not applicable

14.6. Special precautions for user
Not available.

NA Emergency Guidebook Numbers: Not applicable
IMDG EMS: Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
OSHA Hazards: Not applicable.
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WHMIS Classification: Class D, Division 2, Subdivision B: Toxic Material.

Chemical Inventory Lists:
- TSCA: 15TSCA010
- EINECS: 231-764-5
- Canada(DSL/NDSL): DSL
- Japan: (1)-379
- Korea: KE-01656
- Australia: Present
- New Zealand: Present
- China: Present
- Philippines: Present
- Switzerland: Not Listed

New Zealand GHS Classification: 6.3B, 6.4A (Approval number: HSR002768)

Japan GHS Classification: Non classificato da questo paese.

Korea (MOL) GHS Classification: Non classificato da questo paese.

Australia GHS Classification: Non classificato da questo paese.

Taiwan GHS Classification: Non classificato da questo paese.

Indonesia GHS Classification: Non classificato da questo paese.

SARA 313:
- 15SARAH030
- 15SARAH020
- 15SARAP020
- 15SARAP030

15.2. Chemical safety assessment
Not applicable.

SECTION 16: Other information

Full text of R phrases in Section 3: Not applicable
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Legend of abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
DSL/NDSL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EEC = European Economic Community.
EINECS = European Inventory of Existing Commercial Chemical Substances.
ELINCS = European List of Notified Chemical Substances.
EU = European Union.
GHS = Globally Harmonized System.
LC = Lethal concentration.
LD = Lethal dose.
MOL = Ministry of Labor.
NEMA = National Emergency Management Agency.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicological Program.
OSHA = Occupational Safety and Health Administration.
PEL = Permissible exposure limit.
RQ = Reportable quantity.
TLV = Threshold limit value.
WHMIS = Workplace Hazardous Materials Information System.

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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Revision Details: Revised in all sections to GHS format.
Original Date of Issue: 31-May-88