1. Identification

Product identifier: Ammonium Polyphosphate Solution (11-37-0)
Other means of identification: Not available.
Synonyms: 11-37-0, APP, Ammonium Polyphosphate solution.
Recommended use: Fertilizer.
Recommended restrictions: None known.

Manufacturer / Importer / Supplier / Distributor Information

- Company name: Gavilon Fertilizer, LLC
- Address: 5 Skidaway Village Walk, Savannah, GA 31411 US
- Telephone: 1-912-598-8392
- Website: www.gavilon.com
- Contact person: EH&S/Regulatory Department
- Emergency phone number: CHEMTREC (24 hours): 1-800-424-9300

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards (GHS-US):
- Skin irrit. 2  H315
- Eye irrit. 2B H320
- STOT SE 3  H335
See section 16 for full text of H-phrases.

OSHA defined hazards: Not classified.

Label elements

- Hazard symbol: !
- Signal word: Warning.
- Hazard statements (GHS-US):
  - H315 - Causes skin irritation.
  - H320 – Causes eye irritation.
  - H335 – May cause respiratory irritation.

Precautionary statement

Prevention: Do not handle until all safety precautions have been read and understood. Avoid breathing mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Storage: Store away from incompatible material.

Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): Not classified.

Supplemental information: Not applicable.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ammonium Polyphosphate</td>
<td>68333-79-9</td>
<td>57</td>
<td>Skin irrit. 2, H315, Eye irrit. 2B, H320, STOT SE 3, H335</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>7732-18-5</td>
<td>43</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Composition comments: All concentrations are in weight unless ingredient is a gas. Gas concentrations are in percent by volume. The Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Eye contact
Check for and remove contact lenses. Flush immediately with copious amounts of water or normal saline (minimum of 15 minutes), holding eyelids apart to ensure complete irritation of the eye and eyelid tissue. Take exposed individual to a health care professional, preferably an ophthalmologist, for further evaluation.

Skin contact
Remove contaminated clothing, shoes and equipment. Wash exposed area with plenty of soap and water. Repeat washing. If redness or irritation occurs, seek medical attention. Wash contaminated clothing before reuse.

Inhalation
No adverse effects anticipated. If necessary, remove victim to fresh air and loosen clothing. Get medical attention.

Ingestion
Most important symptoms/effects, acute and delayed
Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed
Treat symptomatically.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing media
Do not use a heavy water stream.

Specific hazards arising from the chemical
The product is not flammable. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting follow the general fire precautions indicated in the workplace.

Fire-fighting equipment/instructions
Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from the fire area if you can do so without risk. In the event of fire, cool tanks with water spray.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear suitable protective clothing. For personal protection see Section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

Precautions for safe handling

Avoid inhalation of vapors/spray and contact with skin and eyes. Use only with adequate ventilation. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry well-ventilated place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Follow standard monitoring procedures.

Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and mists.

Individual protection measures such as personal protective equipment

Eye/face protection

Wear approved safety glasses or goggles.

Skin Protection

Hand protection

Chemical resistant gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.

In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.

Wear appropriate thermal protective clothing, when necessary.

General hygiene consideration

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.
9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Dark liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Green</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>6.5 – 7.5</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Non-flammable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Completely miscible</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability

Stable under normal temperature conditions.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

Conditions to avoid

Heat. Extreme temperatures. Contact with incompatible materials.

Incompatible materials


Hazardous decomposition products


11. Toxicological information

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>May cause discomfort if swallowed.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>In high concentrations, vapors may be irritating to the respiratory system.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Prolonged or repeated skin contact may cause irritation.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>May cause eye irritation on direct contact.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.
Information on toxicological effects

Acute toxicity

May cause discomfort if swallowed.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium polyphosphate (CAS 68333-79-9)</td>
<td>Oral LD50 Sprague-Dawley rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Dermal LD50 Sprague-Dawley rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation

Prolonged exposure may cause skin irritation.

Serious eye damage/eye irritation

May cause eye irritation on direct contact.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Skin sensitization

Not a skin sensitizer.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Specific target organ toxicity-

In high concentrations, vapors may be irritating to the respiratory system.

Specific target organ toxicity-

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Chronic effects

Prolonged exposure may cause chronic effects.

Further information

No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium polyphosphate (CAS 68333-79-9)</td>
<td>Aquatic Crustacea EC50 Water flea (Daphnia magna)</td>
<td>627 – 992 mg/L, 48 hours</td>
</tr>
<tr>
<td></td>
<td>Fish LC50 Chinook salmon (Oncorhynchus tshawytscha)</td>
<td>106 mg/L, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability

This substance will promote algae growth which may degrade water quality and taste.

Bioaccumulative potential

No data available for this product.

Mobility in soil

This product is water soluble and may disperse in soil.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
13. Disposal considerations

Disposal instructions
Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as a hazardous material by DOT.

IATA
Not regulated as a dangerous goods.

IMDG
Not regulated as a dangerous goods.

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

15. Regulatory information

US federal regulations
This product is not known to be a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed

Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard</th>
<th>Delayed Hazard</th>
<th>Fire Hazard</th>
<th>Pressure Hazard</th>
<th>Reactivity Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA 302 Extremely hazardous substance</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 311/312 Hazardous chemical</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 313 (TRI reporting)</td>
<td>Not regulated.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

Food and Drug Administration (FDA)
Not regulated.
US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US Massachusetts RTK – Substance List
Not regulated.

US New Jersey Worker and Community Right-to-Know Act
Not regulated.

US Pennsylvania RTK – Hazardous Substances
Not regulated.

US Rhode Island RTK
Not regulated.

US California Proposition 65
US – California Proposition 65 – Carcinogens & Reproductive Toxicity (CRT): Listed substances
Not listed.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates this product complies with the inventory requirements administered by the governing country(s).
A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 26-November-2014

Revision date --

Version # SDS

NFPA Ratings

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

Preparation

The preparation of this MSDS was in accordance with ANSI Z400.1-2010.

Disclaimer

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.