

# Material Safety Data Sheet

## DIAMMONIUM PHOSPHATE

### Section 1: Chemical Product and Company Identification

<b>Product Name:</b>	DIAMMONIUM PHOSPHATE
<b>Synonym:</b>	DAP, DIAMMONIUM HYDROGEN PHOSPHATE, AMMONIUM DIBASIC PHOSPHATE
<b>Chemical Formula:</b>	$(\text{NH}_4)_2\text{HPO}_4$
<b>Execution standard:</b>	HG/T 4132-2021
<b>CAS Number:</b>	7783-28-0
<b>Contact Information:</b>	COMPANYNAME: Shandong Chemic New Materials Co., Ltd. ADD: Chemic Industrial Park, Dongchang East Road, Liaocheng Economic Development Zone, Shandong Province, China. TEL: +86-19963590808

### Section 2: Composition and Information on Ingredients

Main contents	≥ 99.0%
Phosphorus pentoxide $\text{P}_2\text{O}_5$	≥ 53.0%
Nitrogen, as N	≥ 20.8%

### Section 3: Hazards Identification

#### A. EMERGENCY OVERVIEW:

Physical Appearance and Odor:

Colorless crystal

Warning Statements:

CAUTION! MAY CAUSE SKIN, EYE AND RESPIRATORY TRACT IRRITATION.

#### B. POTENTIAL HEALTH EFFECTS:

##### Acute Eye:

May cause irritation.

##### Acute Skin:

Skin absorption not likely. May cause irritation, on prolonged contact.

##### Acute Inhalation:

May cause upper respiratory tract irritation.

##### Acute Ingestion:

Ingestion of large quantities may cause irritation, nausea, vomiting, diarrhea, abdominal cramps.

##### Chronic Effects:

This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

## Section 4: First Aid Measures

### Eye Exposure:

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.

### Skin Exposure:

In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

### Inhalation:

If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

### Ingestion:

If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

### MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

### NOTES TO PHYSICIAN:

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.

Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the feces with the diarrhea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity. Treatment should take into consideration both anionic and cation portion of the molecule. The following treatments should be considered for the specific group(s) of phosphate salts found in this product:

--All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcemia, so calcium levels should be monitored.

--Ammonium salts have a hypothetical risk of ammonia toxicity. In addition to calcium levels, ammonia and phosphate levels should be monitored.

--Potassium salts have a hypothetical risk of hyperkalemia which can cause cardiac arrhythmia. In addition to calcium levels, potassium and phosphate levels should be monitored. Also consider continuous EKG monitoring to detect hyperkalemia.

--Sodium salts have a hypothetical risk of hypernatremia. In addition to calcium levels, sodium and phosphate levels should be monitored.

## Section 5: Fire and Explosion Data

### **FIRE HAZARD DATA:**

#### **Flash Point:**

Not Applicable

#### **Extinguishing Media:**

Not combustible. Use extinguishing method suitable for surrounding fire.

#### **Special Fire Fighting Procedures:**

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

#### **Unusual Fire and Explosion Hazards:**

Not combustible.

#### **Hazardous Decomposition Materials (Under Fire Conditions):**

oxides of potassium

oxides of phosphorus

## Section 6: Accidental Release Measures

### **Evacuation Procedures and Safety:**

Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

### **Containment of Spill:**

Dike or retain dilution water or water from firefighting for later disposal. Follow procedure described below under Cleanup and Disposal of Spill.

### **Cleanup and Disposal of Spill:**

Sweep or vacuum up and place in an appropriate closed container (see Section 7: Handling and Storage). Clean up residual material by washing area with water and detergent.

### **Environmental and Regulatory Reporting:**

Runoff from fire control or dilution water may cause pollution. Large spills should be handled according to a predetermined plan. For assistance in developing a plan contact the Technical Service Department using the Product Information phone number in Section 1.

## Section 7: Handling and Storage

### **Minimum/Maximum Storage Temperatures:**

Not Available

### **Handling:**

Avoid direct or prolonged contact with skin and eyes. Keep containers closed when not being used.

### **Storage:**

This product is hygroscopic and tends to cake on storage. Store in an area that is cool, dry, Recommended container material: stainless steel, Container material to avoid: brass.

## Section 8: Exposure Controls/Personal Protection

### **Engineering Controls:**

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:**

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

**Eye/Face 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 both to durability as well as permeation resistance.

**Work Practice Controls:**

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

## Section 9: Physical and Chemical Properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

**Physical Appearance:**

Colorless crystal

**Odor:** odorless.

**pH:** 8.0 at 1 wt/wt%.

**Specific Gravity:** Not Available

**Density:** 1.619 g/ml at 0 C (32 F).

**Water Solubility:** Not Available

**Melting Point Range:** 155 C

**Boiling Point Range:** Not Available

**Vapor Pressure:** Not Available

**Vapor Density:** Not Available

**Molecular Weight:** 132.06

## Section 10: Stability and Reactivity Data

**Chemical Stability:**

This material is stable under normal handling and storage conditions described in Section 7.

**Conditions To Be Avoided:** none known

**Materials/Chemicals To Be Avoided:** none known

**The Following Hazardous Decomposition Products Might Be Expected:**

**Decomposition Type:** thermal oxides of phosphorus oxides of potassium

**Hazardous Polymerization Will Not Occur.**

**Avoid The Following To Inhibit Hazardous Polymerization:** not applicable

### Section 11: Toxicological Information

**Acute Eye Irritation:**

Toxicological Information and Interpretation:eye - eye irritation, rabbit. Non-irritating.

**Acute Skin Irritation:**No test data found for product.

**Acute Dermal Toxicity:**

**Acute Respiratory Irritation:**No test data found for product.

**Acute Inhalation Toxicity:**No test data found for product.

**Acute Oral Toxicity:**

**Toxicological Information and Interpretation:**LD50 - lethal dose 50% of test species, > 4640 mg/kg, rat.

**Chronic Toxicity:**This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

No additional test data found for product.

### Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal Method:**

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

**EPA Hazardous Waste - NO**

### Section 14: Transport Information

<b>UN-Number</b> <b>ADR, IMDG, IATA</b>	None
<b>UN proper shipping name</b> <b>ADR, IMDG, IATA</b>	None
<b>Transport hazard class(es)</b> <b>ADR, IMDG, IATA</b> <b>Class</b>	None
<b>Packing group</b> <b>ADR, IMDG, IATA</b>	None
<b>Environmental hazards:</b> <b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable
<b>Transport/Additional information:</b>	Not dangerous according to the above specifications.

### Section 15: Other Information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Other Special Considerations:** Not available.

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