



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### 1. PRODUCT AND COMPANY DESCRIPTION

Innophos  
PO Box 8000  
259 Prospect Plains Road  
Cranbury NJ 08512-8000

#### Emergency Phone Numbers:

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300 within the United States or 703-527-3887 for international collect calls) or INNOPHOS ECT (Emergency Communication Team) at 615-386-7816.

#### For Product Information:

(609) 495-2495

#### Chemical Name or Synonym:

AMMONIUM PHOSPHATE, SECONDARY; DAP; AMMONIUM PHOSPHATE, DIBASIC

#### Molecular Formula:

$(\text{NH}_4)_2\text{HPO}_4$

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Component            | CAS Reg Number | OSHA Hazard | Percentage |
|----------------------|----------------|-------------|------------|
| DIAMMONIUM PHOSPHATE | 7783-28-0      | Y           | 100        |

### 3. HAZARDS IDENTIFICATION

#### A. EMERGENCY OVERVIEW:

##### Physical Appearance and Odor:

white powder solid, ammonia-like odor.

##### Warning Statements:

CAUTION! MAY CAUSE SKIN AND EYE IRRITATION.

#### B. POTENTIAL HEALTH EFFECTS:

##### Acute Eye:

May cause irritation.

##### Acute Skin:

Skin absorption not likely. May cause irritation.

##### Acute Inhalation:

May cause upper respiratory tract irritation.

##### Acute Ingestion:

Ingestion of large quantities may cause 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.



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### 4. FIRST AID MEASURES

#### FIRST AID MEASURES FOR ACCIDENTAL:

##### 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:

Do not induce vomiting, unless directed to do so by a physician. If victim is conscious and alert, give 2-3 glasses of water to drink. 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. Also see Note To Physician.

#### 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.



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### 5. FIRE FIGHTING MEASURES

#### **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):**

Ammonia  
oxides of nitrogen  
oxides of phosphorus

### 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). Avoid creation of dusty conditions. 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. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

### 7. HANDLING AND STORAGE

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

Not Available

#### **Handling:**

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



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### Storage:

Store in an area that is cool, dry, well-ventilated, Store in closed containers. This product is hygroscopic and tends to cake on storage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Introductory Remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

### Exposure Guidelines:

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

#### PARTICULATES NOT OTHERWISE REGULATED RESPIRABLE FRACTION

|      | Notes | TWA       | STEL |
|------|-------|-----------|------|
| OSHA |       | 5 mg/cu m |      |

#### PARTICULATES NOT OTHERWISE REGULATED TOTAL DUST

|      | Notes | TWA        | STEL |
|------|-------|------------|------|
| OSHA |       | 15 mg/cu m |      |

### 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: general area dilution/exhaust ventilation.

### 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.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): dust/mist filtering respirator.

### 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.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### **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 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.

## 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:**

white powder solid.

### **Odor:**

ammonia-like odor.

### **PH:**

8 at 1 wt/wt%.

### **Specific Gravity:**

Not Available

### **Water Solubility:**

soluble 41 wt/wt% at 20 C (68 F).

### **Melting Point Range:**

Not Available

### **Boiling Point Range:**

Not Available

### **Vapor Pressure:**

Not Available

### **Vapor Density:**

Not Available

### **Molecular Weight:**

132.06



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### 10. STABILITY AND REACTIVITY

**Chemical Stability:**

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

**Conditions To Be Avoided:**

dusting conditions  
extreme heat  
extreme humidity

**Materials/Chemicals To Be Avoided:**

strong bases  
sodium hypochlorite

**Decomposition Temperature Range:**

155 C (311 F)

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

**Decomposition Type: thermal**

ammonia  
phosphoric acid  
oxides of nitrogen  
oxides of phosphorus

**Hazardous Polymerization Will Not Occur.**

**Avoid The Following To Inhibit Hazardous Polymerization:**

not applicable

### 11. TOXICOLOGICAL INFORMATION

**Acute Eye Irritation:**

No test data found for product.

**Acute Skin Irritation:**

**Toxicological Information and Interpretation:**

Skin – Skin irritation, rabbit. Mildly irritating.

**Acute Dermal Toxicity:**

No test data found for product.

**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, > 1000 mg/kg, rat.



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

### 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.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicological Information:

#### Ecotoxicological Information and Interpretation:

LC50 - lethal concentration 50% of test species, 155 mg/l/96 hr, fish: Pimephales promelas.

### Chemical Fate Information:

No data found for product.

## 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

## 14. TRANSPORTATION INFORMATION

### Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

### US Department of Transportation

#### Shipping Name:

NOT REGULATED

## 15. REGULATORY INFORMATION

### Inventory Status

| Inventory              | Status |
|------------------------|--------|
| UNITED STATES (TSCA)   | Y      |
| CANADA (DSL)           | Y      |
| EUROPE (EINECS/ELINCS) | Y      |
| AUSTRALIA (AICS)       | Y      |
| JAPAN (MITI)           | Y      |
| SOUTH KOREA (KECL)     | Y      |

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.



## Material Safety Data Sheet (MSDS) DIAMMONIUM PHOSPHATE

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

### FEDERAL REGULATIONS

#### Inventory Issues:

All functional components of this product are listed on the TSCA Inventory.

#### SARA Title III Hazard Classes:

|                       |       |
|-----------------------|-------|
| Fire Hazard           | - NO  |
| Reactive Hazard       | - NO  |
| Release of Pressure   | - NO  |
| Acute Health Hazard   | - YES |
| Chronic Health Hazard | - NO  |

### OTHER FEDERAL REGULATIONS:

#### FDA Status:

This product meets the compositional requirements of:  
21 CFR 184.1141B AMMONIUM PHOSPHATE, DIBASIC

### STATE REGULATIONS:

This product does not contain any components that are regulated under California Proposition 65.

## 16. OTHER INFORMATION

#### National Fire Protection Association Hazard Ratings--NFPA(R):

|   |                              |
|---|------------------------------|
| 1 | Health Hazard Rating--Slight |
| 0 | Flammability Rating--Minimal |
| 0 | Instability Rating--Minimal  |

#### National Paint & Coating Hazardous Materials Identification System--HMIS(R):

|   |                              |
|---|------------------------------|
| 1 | Health Hazard Rating--Slight |
| 0 | Flammability Rating--Minimal |
| 0 | Reactivity Rating--Minimal   |

#### Reason for Revisions:

Change and/or addition made to Section 4, Section 12.

#### Key Legend Information:

ACGIH - American Conference of Governmental Industrial Hygienists  
OSHA - Occupational Safety and Health Administration  
TLV - Threshold Limit Value  
PEL - Permissible Exposure Limit  
TWA - Time Weighted Average  
STEL - Short Term Exposure Limit  
NTP - National Toxicology Program  
IARC - International Agency for Research on Cancer  
ND - Not determined  
RPI - INNOPHOS Established Exposure Limits

#### Disclaimer:





**Material Safety Data Sheet (MSDS)**  
**DIAMMONIUM PHOSPHATE**

The information herein is given in good faith but no warranty, expressed or implied, is made.