# AMMONIUM HYPOPHOSPHITE

**AHP**

## CAUTIONARY RESPONSE INFORMATION

| | |
|---|---|
| **Common Synonyms**<br>Phosphinic acid, ammonium salt | Solid crystals White<br><br>Sinks and mixes with water. |

Stop leak if possible.
Isolate and remove discharged material.
Notify local health and pollution control agencies.
Protect water intakes.

| | |
|---|---|
| **Fire** | FLAMMABLE.<br>Flammable gas formed when heated to decomposition.<br>Extinguish with $CO_2$, dry chemical, or water spray. |
| **Exposure** | Not harmful |
| **Water Pollution** | Effect of low concentrations on aquatic life is unknown.<br>May be dangerous if it enters water intakes.<br>Notify local health and wildlife officials.<br>Notify operators of nearby water intakes. |

### 1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Collection Systems: Pump; Dredge

### 2. CHEMICAL DESIGNATIONS

**2.1 CG Compatibility Group:** Not listed
**2.2 Formula:** $NH_4H_2PO_2$
**2.3 IMO/UN Designation:** Not listed
**2.4 DOT ID No.:** Not listed
**2.5 CAS Registry No.:** Currently not available
**2.6 NAERG Guide No.:** Not listed
**2.7 Standard Industrial Trade Classification:** 51481

### 3. HEALTH HAZARDS

**3.1 Personal Protective Equipment:** Rubber gloves, safety glasses, and normal protective gear.
**3.2 Symptoms Following Exposure:** Non-toxic or low toxicity unless heated to decomposition (240°C).
**3.3 Treatment of Exposure:** Not applicable
**3.4 TLV-TWA:** Not listed.
**3.5 TLV-STEL:** Not listed.
**3.6 TLV-Ceiling:** Not listed.
**3.7 Toxicity by Ingestion:** Currently not available
**3.8 Toxicity by Inhalation:** Currently not available.
**3.9 Chronic Toxicity:** Currently not available
**3.10 Vapor (Gas) Irritant Characteristics:** Currently not available
**3.11 Liquid or Solid Characteristics:** No appreciable hazard. Practically harmless to the skin.
**3.12 Odor Threshold:** Currently not available
**3.13 IDLH Value:** Not listed.
**3.14 OSHA PEL-TWA:** Not listed.
**3.15 OSHA PEL-STEL:** Not listed.
**3.16 OSHA PEL-Ceiling:** Not listed.
**3.17 EPA AEGL:** Not listed

### 4. FIRE HAZARDS

**4.1 Flash Point:** Currently not available
**4.2 Flammable Limits in Air:** Currently not available
**4.3 Fire Extinguishing Agents:** Carbon dioxide, dry chemical, or water spray
**4.4 Fire Extinguishing Agents Not to Be Used:** Currently not available
**4.5 Special Hazards of Combustion Products:** Decomposes at 240°C emitting phosphine and $PO_x$. Phosphine is a very toxic gas which ignites spontaneously.
**4.6 Behavior in Fire:** Decomposes when heated with evolution of phosphine which ignites spontaneously.
**4.7 Auto Ignition Temperature:** Currently not available
**4.8 Electrical Hazards:** Currently not available
**4.9 Burning Rate:** Currently not available
**4.10 Adiabatic Flame Temperature:** Currently not available
**4.11 Stoichometric Air to Fuel Ratio:** Currently not available
**4.12 Flame Temperature:** Currently not available
**4.13 Combustion Molar Ratio (Reactant to Product):** Currently not available
**4.14 Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

**5.1 Reactivity with Water:** No reaction
**5.2 Reactivity with Common Materials:** No reaction
**5.3 Stability During Transport:** Stable
**5.4 Neutralizing Agents for Acids and Caustics:** Not pertinent
**5.5 Polymerization:** Not pertinent
**5.6 Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

**6.1 Aquatic Toxicity:** Currently not available
**6.2 Waterfowl Toxicity:** Currently not available
**6.3 Biological Oxygen Demand (BOD):** Currently not available
**6.4 Food Chain Concentration Potential:** None
**6.5 GESAMP Hazard Profile:** Not listed

### 7. SHIPPING INFORMATION

**7.1 Grades of Purity:** 98% pure
**7.2 Storage Temperature:** Cool
**7.3 Inert Atmosphere:** Currently not available
**7.4 Venting:** Currently not available
**7.5 IMO Pollution Category:** Currently not available
**7.6 Ship Type:** Currently not available
**7.7 Barge Hull Type:** Currently not available

### 8. HAZARD CLASSIFICATIONS

**8.1 49 CFR Category:** Not listed
**8.2 49 CFR Class:** Not pertinent
**8.3 49 CFR Package Group:** Not listed.
**8.4 Marine Pollutant:** No
**8.5 NFPA Hazard Classification:** Not listed
**8.6 EPA Reportable Quantity:** Not listed
**8.7 EPA Pollution Category:** Not listed
**8.8 RCRA Waste Number:** Not listed
**8.9 EPA FWPCA List:** Not listed

### 9. PHYSICAL & CHEMICAL PROPERTIES

**9.1 Physical State at 15° C and 1 atm:** Solid
**9.2 Molecular Weight:** 83.0271
**9.3 Boiling Point at 1 atm:** Decomposes 464°F = 240°C = 513.2°K
**9.4 Freezing Point:** 392°F = 200°C = 473.2°K
**9.5 Critical Temperature:** Currently not available
**9.6 Critical Pressure:** Currently not available
**9.7 Specific Gravity:** 1.634 at room temperature
**9.8 Liquid Surface Tension:** Not pertinent
**9.9 Liquid Water Interfacial Tension:** Not pertinent
**9.10 Vapor (Gas) Specific Gravity:** Not pertinent
**9.11 Ratio of Specific Heats of Vapor (Gas):** Not pertinent
**9.12 Latent Heat of Vaporization:** Not pertinent
**9.13 Heat of Combustion:** Currently not available
**9.14 Heat of Decomposition:** Currently not available
**9.15 Heat of Solution:** Endothermic at infinite dilution (25°C) 34.7 Btu/lb = 19.3 cal/g = 8.07 X $10^5$ J/kg
**9.16 Heat of Polymerization:** Not pertinent
**9.17 Heat of Fusion:** Currently not available
**9.18 Limiting Value:** Currently not available
**9.19 Reid Vapor Pressure:** Currently not available

**NOTES**

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| 9.20 SATURATED LIQUID DENSITY | | 9.21 LIQUID HEAT CAPACITY | | 9.22 LIQUID THERMAL CONDUCTIVITY | | 9.23 LIQUID VISCOSITY | |
|---|---|---|---|---|---|---|---|
| Temperature (degrees F) | Pounds per cubic foot | Temperature (degrees F) | British thermal unit per pound-F | Temperature (degrees F) | British thermal unit inch per hour-square foot-F | Temperature (degrees F) | Centipoise |
| | NOT PERTINENT | | NOT PERTINENT | | NOT PERTINENT | | NOT PERTINENT |

| 9.24 SOLUBILITY IN WATER | | 9.25 SATURATED VAPOR PRESSURE | | 9.26 SATURATED VAPOR DENSITY | | 9.27 IDEAL GAS HEAT CAPACITY | |
|---|---|---|---|---|---|---|---|
| Temperature (degrees F) | Pounds per 100 pounds of water | Temperature (degrees F) | Pounds per square inch | Temperature (degrees F) | Pounds per cubic foot | Temperature (degrees F) | British thermal unit per pound-F |
| 77 | 100.000 | | NOT PERTINENT | | NOT PERTINENT | | NOT PERTINENT |