Ammonium Nitrate Prill
Safety Data Sheet
Revision Date: January 2016

SECTION 1: IDENTIFICATION (OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY)

Product Identifier
Product Name: Ammonium Nitrate Prill
Intended Use of the Product: Fertilizer

Name, Address, and Telephone of the Responsible Party/Initial Supplier Identifier
Company
El Dorado Chemical Company
4500 North West Ave.
P.O. Box 231
El Dorado, AR 71731
T (870) 863-1400 - F (870) 863-1126

Emergency Telephone Number
Emergency number: (870) 863-1400, (800) 424-9300 (CHEMTREC, 24 hours)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture
Classification (GHS-US/WHMIS 2015)
Ox. Sol. 3 H272
Eye Irrit. 2A H319

Label Elements
GHS-US/WHMIS 2015 Labeling
Hazard Pictograms (GHS-US/WHMIS 2015):

Hazard Statements (GHS-US/WHMIS 2015):
H272 - May intensify fire; oxidizer
H319 - Causes serious eye irritation

Precautionary Statements (GHS-US/WHMIS 2015):
P210 - Keep away from heat, sparks, open flames, hot surfaces, and other ignition sources. - No smoking.
P220 - Keep away from combustible materials, clothing, incompatible materials.
P221 - Take any precaution to avoid mixing with combustibles, organic material, clothing, incompatible materials.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical attention.
P370+P378 - In case of fire: Use appropriate media for extinction.
P501 - Dispose of contents/container to local, regional, national, territorial, provincial, and international regulations.

Other Hazards
Other Hazards Not Contributing to the Classification: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US/WHMIS 2015): Not applicable
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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>(CAS No) 6484-52-2</td>
<td>98 - 100</td>
<td>Ox. Sol. 3, H272</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>Magnesium nitrate</td>
<td>(CAS No) 10377-60-3</td>
<td>&lt;0.1, 0.1 - 0.7</td>
<td>Ox. Sol. 3, H272</td>
</tr>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>&lt;0.1, 0.1 - 0.5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

SECTION 4: FIRST-AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately.

Most Important Symptoms and Effects Both Acute and Delayed

General: Eye irritation.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: Causes serious eye irritation.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Not available

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Water spray.

Unsuitable Extinguishing Media: Dry chemical, carbon dioxide, or regular foam. Do not use any method of extinguishing a fire that smotheres.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: May intensify fire; oxidizer. Will burn if mixed or contaminated with combustible materials and exposed to heat. In addition, will accelerate the burning of other combustibles, resulting in more rapid spread of fire. Will not spontaneously combust. However, spontaneous ignition at moderately elevated temperatures may occur when contaminated with oxidizable materials such as oil, diesel fuel, wood, seed, charcoal, sulphur, finely divided metals or other combustible substances.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Confinement, smothering, contact with organic material, or combustible material may cause an explosion.

Reactivity: May cause or intensify fire; oxidizer. May accelerate the burning of other combustible materials. Smothering, contact with organic material, or combustible material may cause an explosive situation.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
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Firefighting Instructions: Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. If structure containing Ammonium Nitrate is fully engulfed in flames, DO NOT fight fire. Evacuate surrounding area for at least ½ mile radius.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.


Other information: Do not add water to molten material as this may cause spattering. Do not allow run-off from fire fighting to enter drains or water courses. Never seal off or close building doors or compartments when fire occurs.

Reference to Other Sections
Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. Avoid breathing (dust). Do not get in eyes, on skin, or on clothing. Keep away from combustible material. Avoid generating dust.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).


For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill. Do not take up in combustible material such as: saw dust or cellulosic material.

Reference to Other Sections
See section 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: When heated to decomposition, emits toxic fumes. Smothering, contact with organic material, or combustible material may cause an explosive situation. Do not puncture or incinerate container. NO SMOKING near this material.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep/Store away from combustible materials, extremely high or low temperatures, direct sunlight, ignition sources, incompatible materials. Floor drains and recesses should be plugged or eliminated to prevent entrapment of solution in the event of a fire. Refer to National Fire Protection Association (NFPA) Code 400, Chapter 11 for recommended best practices.


Specific End Use(s) Not available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

No additional information available.

Exposure Controls

Appropriate Engineering Controls: Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment.
**Ammonium Nitrate Prill**

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**Personal Protective Equipment:** Protective goggles. Gloves. Insufficient ventilation: wear respiratory protection. Protective clothing.

**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical goggles when direct eye contact is possible.

**Skin and Body Protection:** Not available

**Respiratory Protection:** Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.

**Other Information:** When using, do not eat, drink or smoke.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on Basic Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless to off-white prills</td>
</tr>
<tr>
<td>Odor</td>
<td>Trace odor of ammonia.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate (butylacetate=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>155°C - 169.4 °C (311°F-337°F)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>&gt;210°C (410°F)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative Vapor Density at 20 °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.72 @21.1°C (70°F)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not available</td>
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<tr>
<td>Viscosity</td>
<td>Not available</td>
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<tr>
<td>Volatility</td>
<td>0%</td>
</tr>
<tr>
<td>Explosion Data – Sensitivity to Mechanical Impact</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosion Data – Sensitivity to Static Discharge</td>
<td>Not available</td>
</tr>
</tbody>
</table>
**SECTION 10: STABILITY AND REACTIVITY**

**Reactivity:** May cause or intensify fire; oxidizer. May accelerate the burning of other combustible materials. Confinement, smothering, contact with organic material, or combustible material may cause an explosive situation.

**Chemical Stability:** May intensify fire; oxidizer. Starts to dissociate and decompose at temperatures above 210°C (410°F). Upon decomposition, ammonium nitrate emits nitrogen oxides and water vapor and may explode if confined.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.


**Hazardous Decomposition Products:** Carbon oxides (CO, CO2). Nitrogen oxides. Toxic vapors. Ammonia.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Information on Toxicological Effects - Product**

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Causes serious eye irritation.

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes serious eye irritation.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Information on Toxicological Effects - Ingredient(s)**

**LD50 and LC50 Data:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>LD50 Oral Rat with mg/kg</th>
<th>LC50 Inhalation Rat with mg/l/4h</th>
<th>LD50 Dermal with mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water (7732-18-5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Oral Rat</td>
<td></td>
<td>&gt; 90000</td>
<td></td>
</tr>
<tr>
<td>Ammonium nitrate (6484-52-2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Oral Rat</td>
<td></td>
<td>2217</td>
<td></td>
</tr>
<tr>
<td>LC50 Inhalation Rat (mg/l)</td>
<td></td>
<td>&gt; 88.8</td>
<td></td>
</tr>
<tr>
<td>LD50 Dermal</td>
<td></td>
<td>&gt;5000</td>
<td></td>
</tr>
<tr>
<td>Magnesium nitrate (10377-60-3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Oral Rat</td>
<td></td>
<td>5440</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity** Not classified

**Persistence and Degradability**

<table>
<thead>
<tr>
<th>Ammonium Nitrate Prill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and Degradability</td>
</tr>
</tbody>
</table>

**Bioaccumulative Potential**

<table>
<thead>
<tr>
<th>Ammonium Nitrate Prill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative Potential</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Ammonium nitrate (6484-52-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
</tr>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

**Mobility in Soil** Not available

**Other Adverse Effects**

*Other Information*: Avoid release to the environment. Ammonium Nitrate is a plant nutrient. However, large spills may kill vegetation and fish and cause algae blooms if waterways are contaminated.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste Disposal Recommendations**: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. Spilled dry material or water solutions can be distributed on land as fertilizer.

**Additional Information**: Clean up even minor leaks or spills if possible without unnecessary risk.

**SECTION 14: TRANSPORT INFORMATION**

14.1 In Accordance with DOT

**Proper Shipping Name**: AMMONIUM NITRATE *with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance*

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
<td>UN1942</td>
</tr>
<tr>
<td>Label Codes</td>
<td>5.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>ERG Number</td>
<td>140</td>
</tr>
</tbody>
</table>

14.2 In Accordance with IMDG

**Proper Shipping Name**: AMMONIUM NITRATE

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
<td>UN1942</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Label Codes</td>
<td>5.1</td>
</tr>
<tr>
<td>EmS-No. (Fire)</td>
<td>F-H</td>
</tr>
<tr>
<td>EmS-No. (Spillage)</td>
<td>S-Q</td>
</tr>
</tbody>
</table>

14.3 In Accordance with IATA

**Proper Shipping Name**: AMMONIUM NITRATE

<table>
<thead>
<tr>
<th>Packing Group</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
<td>UN1942</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>5</td>
</tr>
<tr>
<td>Label Codes</td>
<td>5.1</td>
</tr>
<tr>
<td>ERG Code (IATA)</td>
<td>5L</td>
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</table>

14.4 In Accordance with TDG

**Proper Shipping Name**: AMMONIUM NITRATE

<table>
<thead>
<tr>
<th>Packing Group</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
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</tr>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
</tr>
<tr>
<td>Label Codes</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**SECTION 15: REGULATORY INFORMATION**

**US Federal Regulations**

<table>
<thead>
<tr>
<th>Ammonium Nitrate Prill</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
</tr>
</tbody>
</table>

January 2016  EN (English US)
### Ammonium Nitrate Prill

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<table>
<thead>
<tr>
<th>Reactive hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water (7732-18-5)</td>
</tr>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ammonium nitrate (6484-52-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Magnesium nitrate (10377-60-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

### US State Regulations

**Ammonium nitrate (6484-52-2)**

- U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
- U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
- U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
- U.S. - Pennsylvania - RTK (Right to Know) List
- U.S. - Texas - Effects Screening Levels - Long Term
- U.S. - Texas - Effects Screening Levels - Short Term

**Magnesium nitrate (10377-60-3)**

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List
- U.S. - Texas - Effects Screening Levels - Long Term
- U.S. - Texas - Effects Screening Levels - Short Term

### Canadian Regulations

**Ammonium Nitrate Prill**

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class C - Oxidizing Material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</td>
</tr>
</tbody>
</table>

**Water (7732-18-5)**

- Listed on the Canadian DSL (Domestic Substances List) inventory.

| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

**Ammonium nitrate (6484-52-2)**

- Listed on the Canadian DSL (Domestic Substances List) inventory.

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class C - Oxidizing Material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</td>
</tr>
</tbody>
</table>

**Magnesium nitrate (10377-60-3)**

- Listed on the Canadian DSL (Domestic Substances List) inventory.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by HPR.
SECTION 16: OTHER INFORMATION

Revision date: January 2016

Other Information: This document has been prepared in accordance with the SDS requirements of the US OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada Hazardous Products Regulations (WHMIS 2015).

GHS Full Text Phrases:

<table>
<thead>
<tr>
<th>Eye Irrit. 2A</th>
<th>Serious eye damage/eye irritation Category 2A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ox. Sol. 3</td>
<td>Oxidizing solids Category 3</td>
</tr>
<tr>
<td>H272</td>
<td>May intensify fire; oxidizer</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>

NFPA Health Hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA Fire Hazard: 0 - Materials that will not burn.

NFPA Reactivity: 3 - Capable of detonation or explosive reaction, but requires a strong initiating source or must be heated under confinement before initiation, or reacts explosively with water.

NFPA Specific Hazard: OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.

Party Responsible for the Preparation of This Document
El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
(870) 863-1400

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
EL DORADO CHEMICAL COMPANY
AMMONIUM NITRATE PRILL (AN)
PRODUCT INFORMATION BULLETIN

The following information supplements the Safety Data Sheet (SDS) for Ammonium Nitrate Prill (AN) dated January, 2016.

EMERGENCY OVERVIEW:
- **DANGER: STRONG OXIDIZER**
  - As an oxidizer, AN may increase the flammability and/or explosiveness of other substances.
  - Potentially explosive if contaminated with organic matter of finely divided metals; if heated under confinement; or if subjected to severe shocks.
  - Unstable at high temperature and may decompose producing toxic vapors (nitrogen oxides, ammonia and nitric acid).

POTENTIAL HEALTH HAZARDS:
- **Acute (immediate) Exposure**
  - AN is a mild skin, eye and respiratory irritant and possible allergen.
  - AN can form methemoglobin, a type of hemoglobin, leading to methemoglobinemia in which hemoglobin cannot release oxygen effectively to body tissues. This can have irreversible effects which can be life threatening.
- **Chronic (long-term) Exposure**
  - AN is in Class A+ as a reproductive hazard although there is no direct evidence for adverse reproductive effects. Nevertheless, it would be prudent for pregnant women to avoid exposure to AN.

FIRE FIGHTING INFORMATION:
- **Flammable Properties**
  - AN is a strong oxidizing agent and will support combustion in the absence of oxygen.
  - AN will **not** spontaneously combust. However, spontaneous ignition at moderately elevated temperatures may occur when AN is contaminated with oxidizable materials such as oil, diesel fuel, wood, seed, charcoal, sulfur, finely divided metals or other organic/combustible substances.
  - If confined and ignition occurs, an explosion may occur.
Fire and Explosion Hazards
- Never seal off or close building doors or compartments when fire occurs.
- Nitrogen oxides emitted during fire and resulting decomposition are extremely toxic.
- Contamination of AN with oil, diesel fuel, wood, seed, charcoal, sulfur, finely divided metals or other organic/combustible substances may result in an explosion during a fire.
- If structure containing AN is fully engulfed in flames, **DO NOT** fight the fire.
- Evacuate the surrounding area for at least ½ mile radius.

ACCIDENTAL RELEASE MEASURES:
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- For uncontaminated spills, carefully place spilled material into a clean, dry container and cover loosely; remove from area. Spilled AN can be reused as fertilizer if kept dry and uncontaminated.
- Spilled material that has become contaminated with organic material or other combustible material may present a fire and explosion hazard. Place spilled material in a container and dissolve in water to obtain at least a 50% water solution. Depending on the level of contamination, the solution can be reused as a fertilizer or appropriately disposed of.

HANDLING AND STORAGE:
- Handling
  - Do not mix with any combustible material. Keep away from heat, sparks, flame, hot surfaces or any other sources of ignition. NO SMOKING near this material.
  - Do not get in eyes, on skin or clothing. Do not ingest. Do not inhale dust.
  - Wash hands thoroughly after handling. Remove and wash contaminated clothing promptly.
- Storage
  - Avoid contamination with oil, diesel fuel, wood, seed, charcoal, sulfur, finely divided metals or other combustible substances.
  - Store in well-ventilated areas away from fire hazards and easily oxidizable materials. Keep separate from other chemicals and combustible materials.
  - Floor drains and recesses should be plugged to prevent collection of molten AN in the event of a fire.
  - Refer to National Fire Protection Association (NFPA) Code 400, Chapter 11 for recommended best practices.
  - Stored AN is subject to local regulations (fire and building codes).
  - Storage should be designed for the safe release of pressure in the event of a fire.
STABILITY AND REACTIVITY:

- **Stability**
  - AN is unstable under high temperatures and near open flames, organic materials, combustible materials or explosives.
  - AN starts to decompose at temperatures above 410 degrees F. Upon decomposition it emits nitrogen oxides (NOx) and water vapor and may explode if confined.
  - If AN has been contaminated with another substance (see incompatibility listing below), the decomposition temperature may be reduced and the risk of potential explosion enhanced.

- **Incompatibility**
  - Partial list of incompatible materials is listed below. Incompatibility varies with AN concentration and not all forms of the substances listed below are incompatible.
    - Combustible materials, metal powders, flammable liquids, explosives and any ignition source. AN is incompatible with the following substances: Acetic Acid, Acetic Anhydride, Alkali Metals, Aluminum + Calcium Nitrate, Aluminum, Ammonium Chloride, Ammonium Dichromate, Ammonium Phosphate + Potassium, Antimony, Barium Chloride, Bismuth, Brass, Cadmium, Charcoal + Metal Oxides, Chloride Salts, Chromium, Cobalt, Copper Iron II Sulfide, Copper, Cyanoguanidine, Hydrocarbon Oils, Iron, Lead, Magnesium, Manganese, Nickel, Organic Fuels, Potassium Chromate, Potassium Dichromate, Potassium Nitrate, Potassium Nitrite, Potassium Permanganate, Sawdust, Sodium Chloride, Sodium Sulfide Ores, Sulfur, Tin, Titanium, Trinitroanisole, and Zinc.

TOXICOLOGICAL INFORMATION:

- **Acute**
  - Can cause eye and skin irritation and possible chemical burns.
  - Inhalation of dust may cause severe lung congestion and delayed reactions resulting in pulmonary edema and chemical pneumonitis.
  - Ingestion of large doses may cause systemic acidosis and methemoglobinemia.

- **Chronic**
  - Prolonged and repeated exposure may cause skin dermatitis, kidney damage and conjunctivitis. Exposure may aggravate pre-existing dermatitis and kidney and lung conditions.
  - AN is not classified as a carcinogen.

- **Target Organs**
  - Eyes, skin and mucous membranes.

ECOLOGICAL INFORMATION:

- AN is a plant nutrient; however, large spills may kill vegetation and fish and cause algae blooms if waterways are contaminated.
- Fertilizers containing AN can cause poisoning in livestock and poultry.
SECURITY:
- AN is listed as a Chemical of Interest (COI) by the US Department of Homeland Security (DHS) for theft.

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