Technological Data Sheet

Ammonium Nitrate
Low Density Industrial Grade Prills

Description

Prilled Ammonium Nitrate (NH₄NO₃) is the primary oxidizer used in the production of ammonium nitrate fuel oil mixtures (ANFO); the most cost-effective bulk explosive for dry, surface and underground blasting applications.

Key Benefits

− Manufacture of ammonium nitrate / fuel oil explosives blends
− Manufacture of bulk emulsion explosives and blends
− Manufacture of packaged emulsion explosives
− Manufacture of slurry explosives
− Manufacture of NCN explosives

Features

− Low cost
− Bulk explosives production
− Bagged explosives production
− Transports as an Oxidizer

Properties

<table>
<thead>
<tr>
<th>Ammonium Nitrate</th>
<th>Bulk Density</th>
<th>Oil Absorption (wt%)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>0.74 – 0.87 g/cc</td>
<td>&gt;5.7</td>
</tr>
<tr>
<td>Size Distribution (wt%)</td>
<td>Tyler 6 – 20 (3.3 – 0.83 mm)</td>
<td>&gt;95%</td>
</tr>
<tr>
<td>Total Nitrogen (wt%)</td>
<td>&gt;34</td>
<td></td>
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<tr>
<td>Moisture* (wt%)</td>
<td>&lt;0.25</td>
<td></td>
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<tr>
<td>Coating (wt%)</td>
<td>0.04 – 0.15</td>
<td>Organic</td>
</tr>
<tr>
<td>PH (10% solution)</td>
<td>4.5 – 6.0</td>
<td></td>
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</tbody>
</table>

* Ammonium Nitrate is hygroscopic. Any contact with moisture or humid air can weaken and break down the prill’s internal crystalline structure.

Packaging

Bagged Production: Available in 25 kg (55 lb) two-ply polyethylene valve bags, or 25 kg (55 lb) polypropylene bags.

FIBC Production: Available in 400 kg (882 lb) to 1000 kg (2205 lb) capacities.

Bulk: Available in road truck, or rail car quantities (volumes per DOT restrictions).

Handling

Recommended pneumatic loading pressures (silos, trucks, or rail cars) are 5 psig or 35 kPag. These pressures should not exceed 8 psig or 55 kPag.

Storage

Due to its hygroscopic nature, it is important that the product be stored in dry silos or storage sheds, and not in humid or wet conditions. The internal crystalline structure of the product transitions at 90° F (32° C) and 0° F (-18° C). In conjunction with these changes there are corresponding volume changes of 3.6% and 2.8% respectively. Repeated cycling through these temperatures can break down the structure of the product. This is most important during summer and winter months, where day/night temperature variations pass through either of these transition temperatures. If such exposure is unavoidable, expedient consumption is recommended.

Hazards

− Supports combustion
− Decomposes rapidly if heated while confined, potentially resulting in fire or explosion
− Produces toxic fumes when burned
− Toxic to aquatic organisms.
− See the Material Safety Data Sheet for complete details

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www.oricaminingservices.com
Hazardous Materials Shipping Description
Ammonium Nitrate, Class 5.1
UN1942, PG III

WHMIS (Canada) Class C: Oxidizer, D-2B: Toxic

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