SECTION I - PRODUCT IDENTIFICATION

Trade Name(s): DYNOGEL™ HD, DYNOGEL™ HD PLUS
SUPER DYNOGEL™ HD
DYNOGEL™

Product Class: Packaged Water Gel Explosives

Product Appearance & Odor: Dark tan or gray gel containing dark particulates.

DOT Hazard Shipping Description: Explosive, blasting, type E 1.5D UN0332 II

NFPA Hazard Classification: Not Applicable (See Section IV - Special Fire Fighting Procedures)

SECTION II - HAZARDOUS INGREDIENTS

Ingredients:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS#</th>
<th>% (Range)</th>
<th>TLV-ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Nitrate</td>
<td>6484-52-2</td>
<td>33-40</td>
<td>No Value Established</td>
</tr>
<tr>
<td>Sodium Nitrate</td>
<td>7631-99-4</td>
<td>10-15</td>
<td>No Value Established</td>
</tr>
<tr>
<td>Nitrocellulose</td>
<td>9004-70-0</td>
<td>25-35</td>
<td>No Value Established</td>
</tr>
<tr>
<td>Nitroglycerin</td>
<td>55-63-0</td>
<td>0-12</td>
<td>0.46 mg/m³</td>
</tr>
<tr>
<td>Dibutylphthalate</td>
<td>84-74-2</td>
<td>1-2</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Aluminum*</td>
<td>7429-90-5</td>
<td>0-9</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Dinitrotolulene (DNT)**</td>
<td>25321-14-6</td>
<td>0-4</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>Diphenylamine</td>
<td>122-39-4</td>
<td>&lt;1</td>
<td>10 mg/mg³</td>
</tr>
</tbody>
</table>

*Aluminum is found in DYNOGEL™ HD PLUS and SUPER DYNOGEL™ HD only.
** Suspected human carcinogen.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations.

SECTION III - PHYSICAL DATA

Boiling Point: >100°C

Vapor Density: (Air=1) Not Applicable

Percent Volatile by Volume: <20%

Evaporation Rate (Butyl Acetate = 1): <1

Vapor Pressure: Not Applicable

Density: 1.25 - 1.50 g/cc

Solubility in Water: Nitrate components are soluble in water.
SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable  
Flammable Limits: Not Applicable

Extinguishing Media: (See Special Fire Fighting Procedures section.)

Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.

Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning materials may produce toxic vapors.

SECTION V - HEALTH HAZARD DATA

Effects of Overexposure

Eyes: Can cause irritation, redness and tearing.

Skin: Prolonged contact may cause redness, irritation or skin allergies.

Ingestion: Not a likely route of exposure. Large amounts may be harmful if swallowed. Symptoms include dizziness, bluish skin coloration, methemoglobinemia and unconsciousness.

Inhalation: Not a likely route of exposure.

Systemic or Other Effects: Dinitrotoluene (DNT) is a suspected carcinogen and toxic through all routes of exposure.

Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.

Skin: Remove contaminated clothing. Wash skin thoroughly with soap and water.

Ingestion: Seek medical attention.

Inhalation: Remove to fresh air. If irritation persists, seek medical attention.

Special Considerations: None.

SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions, may explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.

Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock. Do not let product dry out if exposed to air.

Materials to Avoid (Incompatibility): Corrosives (strong acids and strong bases or alkalis). Reacts with strong alkalis to liberate ammonia and amines.

Hazardous Decomposition Products: Nitrogen Oxides (NO\textsubscript{x}), Carbon Monoxide (CO), Ammonia (NH\textsubscript{3}), Hydrogen (H\textsubscript{2})

Hazardous Polymerization: Will not occur.
SECTION VII - SPILL OR LEAK PROCEDURES
Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State and local spill reporting requirements.

Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

SECTION VIII - SPECIAL PROTECTION INFORMATION
Ventilation: Not required for normal handling.
Respiratory Protection: None normally required.
Protective Clothing: Gloves and work clothing that reduce skin contact are recommended.
Eye Protection: Safety glasses are recommended.
Other Precautions Required: None.

SECTION IX - SPECIAL PRECAUTIONS
Precautions to be taken in handling and storage: Store in cool, dry, well-ventilated location. Store in compliance with Federal, State and local regulations. Keep away from heat, flame, ignition sources and strong shock. Do not let product dry out if exposed to air. Re-wet dried product with water prior to handling.

Precautions to be taken during use: Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

Other Precautions: It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.

SECTION X - SPECIAL INFORMATION
This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

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<tr>
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<th>% By Weight</th>
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The reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372 may become applicable if the physical state of this product is changed to an aqueous solution. If an aqueous solution of this product is manufactured, processed, or otherwise used, the nitrate compounds category of the previously referenced regulation should be reviewed.

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