MATERIAL SAFETY DATA SHEET  
DYNO NOBEL INC.  
11TH FLOOR CROSSROADS TOWER  
SALT LAKE CITY, UTAH 84144  
PHONE: 801-364-4800  FAX: 801-328-6452  
E-MAIL: DNNA.HSE@AM.DYNONOBEL.COM  
FOR 24 HOUR EMERGENCY CALL 800-424-9300  

MSDS# 1019  
DATE: 05/09/03  
Supersedes MSDS  
1019 03/01/02

SECTION I - PRODUCT IDENTIFICATION

Trade Name(s):  
D-GEL™ 1000  
DYNOSPLIT®: D1, D3/4, D 7/8  
EXTRA GELATIN: 40%, 75%  
GELAPRIME® F  
RED H® A  
UNIGEL®  
RED H® B  
UNIMAX®  
IRECOGEL® B  
VIBROGEL®: 1,3  
IRESPLET® D  
Z POWDER™  
IRESPLET® D-1  
IP: 724, 738

Product Class: Packaged Dynamites and Blasting Gelatins

Product Appearance & Odor: Powdery to gelatinous solid, light tan to dark brown color. Faint, waxy odor.

DOT Hazard Shipping Description: Explosive, blasting, type A 1.1D UN0081 II

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

SECTION II - HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS#</th>
<th>% (Range)</th>
<th>TLV-ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitroglycerin (NG)</td>
<td>55-63-0</td>
<td>1-20</td>
<td>0.05 ppm</td>
</tr>
<tr>
<td>Ethylene Glycol Dinitrate (EGDN)</td>
<td>628-96-6</td>
<td>8-76</td>
<td>0.05 ppm</td>
</tr>
<tr>
<td>Nitrocellulose</td>
<td>9004-70-0</td>
<td>0-6</td>
<td>No Value Established</td>
</tr>
<tr>
<td>Ammonium Nitrate</td>
<td>6484-52-2</td>
<td>0-75</td>
<td>No Value Established</td>
</tr>
<tr>
<td>Sodium Nitrate</td>
<td>7631-99-4</td>
<td>0-50</td>
<td>No Value Established</td>
</tr>
<tr>
<td>Sulfur*</td>
<td>7704-34-9</td>
<td>0-4</td>
<td>No Value Established</td>
</tr>
</tbody>
</table>

*This ingredient is not found in most of the products listed above.

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: Not Applicable  
Vapor Pressure: Not Applicable  
Vapor Density: Not Applicable  
Density: 0.8-1.48 g/cc  
Percent Volatile by Volume: Not Applicable  
Solubility in Water: Ammonium and sodium nitrates are completely soluble. NG and EGDN are very slightly soluble.  
Evaporation Rate (Butyl Acetate = 1): Not Applicable
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 material may produce toxic vapors.

SECTION V - HEALTH HAZARD DATA

Effects of Overexposure

Eyes: May cause irritation, redness and tearing.

Skin: Contact may result in headache, nausea and blood vessel dilation.

Ingestion: May result in headache, nausea, intestinal upset and blood vessel dilation.

Inhalation: May result in headache, nausea and blood vessel dilation.

Systemic or Other Effects: None known.

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 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.

Materials to Avoid (Incompatibility): Corrosives (mineral acids, bases, strong acids).

Hazardous Decomposition Products: Carbon Monoxide (CO), Hydrogen Sulfide (H₂S), Nitrous Oxides (NOₓ), and Sulfur Oxides (SOₓ).

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. Contact of this product with water may result in a reportable release.

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: Forced ventilation may be necessary where natural ventilation is limited. Magazines containing NG and/or EGDN based explosives must be ventilated before entry.

Respiratory Protection: None normally required.

Protective Clothing: Chemical resistant (nitrile) gloves are suggested.

Eye Protection: Safety glasses are recommended.

Other Precautions Required: Inhalation and skin contact should be minimized to avoid headaches, nausea, and blood vessel dilation. Protective clothing should be changed daily, more often if contaminated.

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.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>% By Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitroglycerin</td>
<td>55-63-0</td>
<td>1-20</td>
</tr>
</tbody>
</table>

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 and ammonia listing of the previously referenced regulation should be reviewed.

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