SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, Utah 84121
Phone: 801-364-4800  Fax 801-321-6703
E-Mail: dnna.hse@am.dynonobel.com  www.dynonobel.com

Product Identifier
Product Form: Mixture
Product Name: Packaged Emulsion Explosives

Trade Name(s):
Synonyms:
- BLASTEX®
- BLASTEX® PLUS
- BLASTEX® TX

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)
Exp. 1.5  H205

Label Elements
GHS-US Labeling
Hazard Pictograms (GHS-US):

Signal Word (GHS-US) : Danger
Hazard Statements (GHS-US) :
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P264 - Wash exposed areas. thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face 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
P373 - DO NOT fight fire when fire reaches explosives
P370+P380 - In case of fire: Evacuate area
P372 - Explosion risk in case of fire
SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Name</th>
<th>Product identifier</th>
<th>% (w/w)</th>
<th>Ingredient Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ammonium nitrate</td>
<td>(CAS No) 6484-52-2</td>
<td>65 - 85</td>
<td>Ox. Sol. 3, H272, Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td>Sodium nitrate</td>
<td>(CAS No) 7631-99-4</td>
<td>0.1 – 10</td>
<td>Ox. Sol. 3, H272, Acute Tox. 4 (Oral), H302, Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td>Aluminum</td>
<td>(CAS No) 7429-90-5</td>
<td>0.1 – 3</td>
<td>Comb. Dust, H232, Flam. Sol. 1, H228, Water-react. 2, H261</td>
</tr>
<tr>
<td></td>
<td>Mineral Oil</td>
<td>(CAS No) 64742-54-7</td>
<td>0 – 2</td>
<td>Asp. Tox. 1, H304</td>
</tr>
<tr>
<td></td>
<td>Wax (paraffin)</td>
<td>(CAS No) 8002-72-2</td>
<td>0.0 – 2.2</td>
<td>Not Classified</td>
</tr>
</tbody>
</table>

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in deminimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

Full text of H-phrases: see section 16

SECTION 4 - FIRST AID MEASURES

Description of First Aid Measures
This is a packaged product that will not result in exposure to the contents under normal conditions of use. In the event of contact, administer first aid appropriate for symptoms present.

**General:** Never give anything by mouth to an unconscious person. If exposed or concerned, seek medical advice and attention.

**Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Wash contaminated clothing before reuse.

**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. Immediately call a POISON CENTER or doctor/physician.

**Most Important Symptoms and Effects Both Acute and Delayed**

**General:** Avoid ingestion, contact with eyes or skin.

**Inhalation:** May cause respiratory irritation.

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause serious eye irritation.

**Ingestion:** Seek medical attention.

**Chronic Symptoms:** None expected under normal conditions of use.

**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: 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.

**Unsuitable Extinguishing Media:** DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS

**Special Hazards Arising From the Substance or Mixture**

**Fire Hazard:** Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

**Explosion Hazard:** This product is an explosive with mass detonation hazard. Heating may cause an explosion.

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

**Advice for Firefighters**

**Firefighting Instructions:** 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. Guard against re-entry.

**Protection During Firefighting:** See above

**Hazardous Combustion Products:** Nitrogen Oxides (NOₓ), Carbon Monoxide (CO), Ammonia.

**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:** Avoid all contact with skin, eyes, or clothing. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Eliminate every possible source of ignition.

**For Non-Emergency Personnel**

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

**Emergency Procedures:** Evacuate unnecessary personnel.

**For Emergency Personnel**

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

**Emergency Procedures:** Eliminate ignition sources. Ventilate area.

**Environmental Precautions**

Prevent entry to sewers and public waters.

**Methods and Material for Containment and Cleaning Up**

**Methods for Cleaning Up:** Protect from all ignition sources. If no fire danger is present, and product is undamaged and/or uncontaminated, pick up or sweep up and 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.

**Reference to Other Sections**

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see section 13.

**SECTION 7 - HANDLING AND STORAGE**

**Precautions for Safe Handling**

This is a packaged product that will not result in exposure to the contents under normal conditions of use.

**Additional Hazards When Processed:** This product is an explosive and should only be used under the supervision of trained and licensed personnel. Use accepted safe industry practices when handling and using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

**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. Do not eat, drink or smoke when using this product.

**Conditions for Safe Storage, Including Any Incompatibilities**

**Technical Measures:** Store as defined in the Explosives Act of Canada and the provisions of the Bureau of Alcohol, Tobacco and Firearms regulations contained in 27 CFR Part 555.

**Storage Conditions:** 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 store explosives in a detonator magazine or detonators in an explosive magazine. Keep containers closed. Explosives should be kept well away from initiating explosives; protected from physical damage; separated from oxidizing materials, combustibles, and sources of...
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White or pink opaque semi-solid, which will appear gray if product contains aluminum. Typically paper or plastic chub packaging.</td>
</tr>
<tr>
<td>Odor</td>
<td>Faint petroleum odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Incompatible Materials: Corrosives (strong acids and strong bases or alkalis)
Specific End Use(s): For industrial blasting applications.
**SECTION 10 - STABILITY AND REACTIVITY**

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

Chemical Stability: Stable under normal temperature and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock.

Incompatible Materials: Corrosives (strong acids and strong bases or alkalis).

Hazardous Decomposition Products: Nitrogen Oxides (NO\textsubscript{x}), Carbon Monoxide (CO), Ammonia

**SECTION 11 - TOXICOLOGICAL INFORMATION**

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD\textsubscript{50} and LC\textsubscript{50} Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: May cause eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

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 eye irritation.

Symptoms/Injuries After Ingestion: If ingested, seek medical attention.

Information on Toxicological Effects - Ingredient(s)

LD\textsubscript{50} and LC\textsubscript{50} Data:

Sodium nitrate (7631-99-4)
**Safety Data Sheet**

<table>
<thead>
<tr>
<th>LD50 Oral Rat</th>
<th>&gt; 2000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate (6484-52-2)</td>
<td>2217 mg/kg</td>
</tr>
<tr>
<td>LC50 Inhalation Rat</td>
<td>&gt; 88.8 mg/l/4h</td>
</tr>
</tbody>
</table>

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity** Not classified

<table>
<thead>
<tr>
<th>Sodium nitrate (7631-99-4)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Fish 1</td>
<td>2000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
</tr>
<tr>
<td>LC 50 Fish 2</td>
<td>994.4 - 1107 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**

<table>
<thead>
<tr>
<th>Sodium nitrate (7631-99-4)</th>
<th>Readily biodegradable in water.</th>
</tr>
</thead>
</table>

**Bioaccumulative Potential**

<table>
<thead>
<tr>
<th>Sodium nitrate (7631-99-4)</th>
<th>Not expected to bioaccumulate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate (6484-52-2)</td>
<td>No bioaccumulation expected.</td>
</tr>
</tbody>
</table>

**Mobility in Soil** Not available

**Other Adverse Effects**

<table>
<thead>
<tr>
<th>Other Information: Avoid release to the environment.</th>
</tr>
</thead>
</table>

**Toxicity** Not classified

**SECTION 13 – DISPOSAL CONSIDERATIONS**

**Waste Disposal Recommendations:** 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.

**Additional Information:** None

**SECTION 14 - TRANSPORT INFORMATION**

**14.1 In Accordance with DOT**

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>EXPLOSIVE, BLASTING, TYPE E or Agent blasting, Type E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>1.5D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Identification Number</th>
<th>UN0332</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label Codes</td>
<td>1.5D</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

**ERG Number** 140

**14.2 In Accordance with IMDG**

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>EXPLOSIVE, BLASTING, TYPE E (AGENT, BLASTING, TYPE E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>1.5D</td>
</tr>
<tr>
<td>Identification Number</td>
<td>UN0332</td>
</tr>
</tbody>
</table>
Label Codes: 1.5D
EmS-No. (Fire): F-B
EmS-No. (Spillage): S-Y

14.3 In Accordance with IATA
Proper Shipping Name: AGENT, BLASTING TYPE E
Identification Number: UN0332
Hazard Class: 1
Label Codes: 1.5D
ERG Code (IATA): 1L

14.4 In Accordance with TDG
Proper Shipping Name: EXPLOSIVE, BLASTING, TYPE E
Packing Group: II
Hazard Class: 1.5D
Identification Number: UN0332
Label Codes: 1.5D

SECTION 15 - REGULATORY INFORMATION
US Federal Regulations
Packaged Emulsion Explosives
Bureau of Alcohol Tobacco & Firearms (BATF)
Department of Transportation (DOT)
Mine Safety & Health Administration (MSHA)

Canadian Regulations
Packaged Emulsions
WHMIS Classification: Note: Explosives are not regulated under WHMIS. They are subject to the regulations of the Explosives Act of Canada.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION
Revision date: 03/18/2015
Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:
<table>
<thead>
<tr>
<th>Expl. 1.5</th>
<th>Explosive Category 1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>H205</td>
<td>May mass explode in fire</td>
</tr>
</tbody>
</table>

Party Responsible for the Preparation of This Document
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Salt Lake City, Utah 84121
Phone: 801-364-4800
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Dyno Nobel SDS