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®
  BLASTGEL® TX
  BLASTEX® PLUS
  BLASTEX® TX

Other Means of Identification
Product Class: Emulsion Explosives, Packaged
Intended Use of the Product:
Industrial blasting applications

Emergency Telephone Number
FOR 24 HOUR EMERGENCY, CALL
CHEMTREC (USA)   800-424-9300
CANUTEC (CANADA)   613-996-6666

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)
Expl. 1.5
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
Other Hazards

Hazard Not Otherwise Classified (HNOC): Not available
Other Hazards: None

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 (CAS No) 6484-52-2</td>
<td>65 - 85</td>
<td>Ox. Sol. 3, H272</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td>Sodium nitrate (CAS No) 7631-99-4</td>
<td>0.1 – 10</td>
<td>Ox. Sol. 3, H272</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td>Aluminum (CAS No) 7429-90-5</td>
<td>0.1 - 3</td>
<td>Comb. Dust, H232</td>
<td>Flam. Sol. 1, H228</td>
</tr>
<tr>
<td></td>
<td>Mineral Oil (CAS No) 64742-54-7</td>
<td>0 – 2</td>
<td>Asp. Tox. 1, H304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wax (paraffin) (CAS No) 8002-72-2</td>
<td>0.0 – 2.2</td>
<td>Not Classified</td>
<td></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

P501 - Dispose of contents/container according to local, regional, national, and international regulations

SDS# 1063 Date: 10/12/2018
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**

**Physical State**: Solid

**Appearance**: White or pink opaque semi-solid, which will appear gray if product contains aluminum. Typically paper or plastic chub packaging.

**Odor**: Faint petroleum odor

**Odor Threshold**: Not available

**pH**: Not applicable

**Evaporation Rate**: < 1

**Melting Point**: Not applicable

**Boiling Point**: Not applicable

**Flash Point**: Not applicable

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

**Specific End Use(s)**: For industrial blasting applications.

**Exposure Controls/Personal Protection**

**Control Parameters**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Product identifier:</th>
<th>Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>(CAS No) 6484-52-2</td>
<td>ACGIH TLV-TWA</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>(CAS No) 7631-99-4</td>
<td>None</td>
</tr>
<tr>
<td>Aluminum</td>
<td>(CAS No) 7429-90-5</td>
<td>10 mg/m³ (dust)</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>(CAS No) 64742-54-7</td>
<td>5 mg/m³ (mist)</td>
</tr>
<tr>
<td>Wax (paraffin)</td>
<td>(CAS No) 8002-72-2</td>
<td>2-10 mg/m³ (wax fume)</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).

**Exposure Controls**

**Appropriate Engineering Controls**: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

**Personal Protective Equipment**: Gloves. Protective goggles. Protective clothing.

**Materials for Protective Clothing**: protective clothing.

**Hand Protection**: Protect against incidental skin contact.

**Eye Protection**: Chemical goggles or safety glasses.

**Skin and Body Protection**: Wear suitable protective clothing.

**Respiratory Protection**: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**Environmental Exposure Controls**: Do not allow the product to be released into the environment.
Auto-ignition Temperature : Not available
Decomposition Temperature : Ammonium nitrate: 210 °C (410 °F)
Flammability (solid, gas) : Not applicable
Lower Flammable Limit : Not applicable
Upper Flammable Limit : Not applicable
Vapor Pressure : Not applicable
Relative Vapor Density at 20 °C : Not applicable
Relative Density : Not applicable
Density : 1.20 - 1.30 g/cc
Specific Gravity : Not applicable
Solubility : Partially soluble in water
Partition coefficient: n-octanol/water : Not available
Viscosity : Not available
Explosive properties : Explosive; mass explosion hazard
Explosion Data – Sensitivity to Mechanical Impact : Not sensitive
Explosion Data – Sensitivity to Static Discharge : Not sensitive

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 (NOX), Carbon Monoxide (CO), 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: 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)
LD50 and LC50 Data:
Sodium nitrate (7631-99-4)
Safety Data Sheet

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

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity**
- Not classified

**Sodium nitrate (7631-99-4)**
- LC50 Fish 1: 2000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
- LC 50 Fish 2: 994.4 - 1107 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

**Persistence and Degradability**
- Readily biodegradable in water.

**Bioaccumulative Potential**
- Not expected to bioaccumulate.

**Ammonium nitrate (6484-52-2)**
- BCF fish 1: No bioaccumulation expected.

**Mobility in Soil**
- Not available

**Other Adverse Effects**

**Other Information:** Avoid release to the environment.

**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
- **Proper Shipping Name**: EXPLOSIVE, BLASTING, TYPE E or Agent blasting, Type E
- **Hazard Class**: 1.5D
- **Identification Number**: UN0332
- **Label Codes**: 1.5D
- **Packing Group**: II

**ERG Number**: 140

14.2 In Accordance with IMDG
- **Proper Shipping Name**: EXPLOSIVE, BLASTING, TYPE E (AGENT, BLASTING, TYPE E)
- **Hazard Class**: 1.5D
- **Identification Number**: UN0332
### Label Codes
- EmS-No. (Fire): 1.5D
- EmS-No. (Spillage): 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

<table>
<thead>
<tr>
<th>Revision date</th>
<th>10/12/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Information</td>
<td>This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.</td>
</tr>
</tbody>
</table>

#### GHS Full Text Phrases:
- **Expl. 1.5**: Explosive Category 1.5
- **H205**: May mass explode in fire

**Party Responsible for the Preparation of This Document**
Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, Utah 84121
Phone: 801-364-4800
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Dyno Nobel SDS