

## MATERIAL SAFETY DATA SHEET

### SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MANUFACTURER:** Maxam North America, Inc.  
6975 South Union Park Center, Suite 525  
Salt Lake City, Utah 84047

**EMERGENCY CONTACT:** (800) 233-6000 (Maxam North America, Inc.)  
(888) 793-2378 (CEDA)

**TRADE NAME:** High Energy Fuel (AKA: HEF® All Grades, RIOMEX™ All Grades), Mini Prill Blends & RIOFRAG™ Blends

**CAS NUMBER:** N/A

### SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

*Exposure Limits (mg/m<sup>3</sup> unless noted) % by Wgt*

Component	CAS No.	ACGIH TLV	OSHA PEL	% w/w Typical
Ammonium Nitrate	6484-52-2	N/A	N/A	46-88
Calcium Nitrate	10124-37-5	N/A	N/A	0-36
Fuel Oil	68476-34-6	N/A	N/A	5-12

### SECTION 3 – HAZARDS IDENTIFICATION

**US OSHA HAZARD COMMUNICATION STANDARD:** Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous.

**EFFECTS OF OVEREXPOSURE:** Respiratory irritation, dizziness, nausea, vomiting, and tachycardia. Prolonged, repeated skin contact may result in skin irritation or more serious skin disorders. Toxic effects are unlikely to occur if good personal hygiene is practiced.

**EMERGENCY RESPONSE DATA:** Light brown, red or black liquid. Material will not sustain combustion.

**DOT EMERGENCY RESPONSE GUIDE NO.:** 112

### SECTION 4 – FIRST AID AND MEASURES

**EFFECTS OF OVEREXPOSURE:** Unknown

**EMERGENCY AND FIRST AID PROCEDURES:**

**INHALATION** – Remove to a well ventilated area. If breathing difficulties persist seek medical help.

**INGESTION** – Do not induce vomiting. Drink large amounts of water or milk. Give liquid activated charcoal and seek medical attention.

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*SKIN* – Wash effected area with soap and rinse with large amounts of water. Launder contaminated clothing before reuse.

*EYES* – Flush with copious amounts of clean or buffered water for at least 15 minutes. Seek medical attention immediately.

### **X SECTION 5 – FIRE-FIGHTING MEASURES**

*FLASH POINT*: Greater than 200 °F or 93°C

*LEL*: Not Available

*EXTINGUISHING MEDIA*: Water -Deluge with water to cause a mass cooling.

*UNUSUAL FIRE & EXPLOSION HAZARDS*: System contains its own oxygen and fuel.

*SPECIAL FIRE FIGHTING PROCEDURES*: DO NOT FIGHT AN ESTABLISHED FIRE. Clear area and allow it to burn out. A 6" diameter paper cylinder filled with HEF® at ambient temperature does not detonate with 1 lb. cast primer. HEF® alone, will not sustain combustion.

### **X SECTION 6 – ACCIDENTAL RELEASE MEASURES**

*STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED*: Scoop up and wash area with water.

*WASTE DISPOSAL METHOD*: Put in a cardboard box or a bag and place down a blast hole prior to detonation; (Bury in approved landfill, if regulations allow).

### **X SECTION 7 – HANDLING AND STORAGE**

*DURING HANDLING AND STORAGE*: Handle with care; this is an explosive product. Wear chemical resistant gloves and boots. Store at normal ambient temperatures. Keep away from heat and flames.

*OTHER PRECAUTIONS*: May cause shrinkage of leather shoes and gloves, avoid contact; very corrosive to ferrous metals.

### **X SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION**

*RESPIRATORY*: None.

*VENTILATION*: Ambient

*GLOVES*: Chemical resistant

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*EYE:* Safety Glasses/Goggles

*OTHER PROTECTIVE EQUIPMENT:* None required.

*THRESHOLD LIMIT VALUE:* Nitrogen dioxide = 3 ppm, Nitrous oxides = 25 ppm

### **X SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

*NOTE:* The flash point of this material is >200<sup>0</sup>F

*BOILING RANGE:* N/A

*MELTING POINT:* N/A

*VAPOR DENSITY:* N/A

*DENSITY:* N/A

*SPECIFIC GRAVITY:* 1.3 TO 1.4 g/cc

*EVAPORATION RATE:* N/A

*PERCENT VOLATILE BY VOLUME:* N/A

*SOLUBILITY IN WATER:* No

*APPEARANCE AND ODOR:* Viscous emulsion; odor for fuel oil; transparent honey, brown/black or red color. Viscosity range: 20,000 to 40,000 cP at 20<sup>0</sup>C.

### **X SECTION 10 – STABILITY AND REACTIVITY**

*STABILITY:* Stable under normal conditions.

*CONDITIONS TO AVOID:* High heat, flames, impact and friction.

*HAZARDOUS DECOMPOSITION PRODUCTS:* NO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, Ammonia

*HAZARDOUS POLYMERIZATION:* Will not occur.

### **X SECTION 11 – TOXICOLOGICAL DATA**

*ACUTE TOXICITY:* Not Established

### **X SECTION 12 – ECOLOGICAL INFORMATION**

*ENVIRONMENTAL FATE AND EFFECTS:* Not Established



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### SECTION 13 – DISPOSAL CONSIDERATIONS

*RCRA Information:* Any other form of disposal of this product may be subject to RCRA regulations (40 CFR 261) due to characteristic(s)/chemical(s) listed in section 2.

### X SECTION 14 – TRANSPORT INFORMATION

*Regulatory Classification:*

*USA DOT: Oxidizing Liquid, N.O.S., 5.1, PG II, UN3139*

*USA DOT:*

<i>SHIPPING NAME:</i>	<i>Oxidizing Liquid, N.O.S.</i>
<i>HAZARD CLASS AND DIV.:</i>	<i>5.1</i>
<i>ID NUMBER:</i>	<i>UN3139</i>
<i>PACKAGING GROUP:</i>	<i>II</i>
<i>LABEL(S):</i>	<i>5.1</i>
<i>PLACARD(S)</i>	<i>5.1</i>
<i>PRDUCT RQ:</i>	<i>N/A</i>
<i>ERG NUMBER:</i>	<i>112</i>

*CANADA: Class 2, Explosive, Blasting, Type E, 1.5D, PG II, UN0332*

### X SECTION 15 – REGULATORY INFORMATION

**GOVERNMENTAL INVENTORY STATUS:** All components comply with TSCA, and EINECS/ELINCS.

**US SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III:** *This product is considered an "Extremely Hazardous Substance." This product contains Ammonium Nitrate which is reportable to SARA(313) Toxic Release Program.*

### X SECTION 16 – OTHER INFORMATION

This product meets UN standards for blasting explosives as outlined in TDG Manual of Test and Criteria.