

MAXAM

SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: MAXAM Energetic, LLC
225 Six Mile Hollow Road
Hernshaw, WV 25107

EMERGENCY CONTACT: (800) 424-9300 (CHEMTREC)
(304) 833-6271 (MAXAM Energetic, LLC)
(801) 233-6000 (MAXAM North America, Inc.)

PRODUCT NAME: Packaged Emulsion: RIOHIT™ 200, RIOHIT™ 250, RIOHIT™ 250 MS

CAS NUMBER: N/A

SECTION 2 – HAZARDS IDENTIFICATION

Classification: Explosives Division 1.5 (H205)
Oxidizing Solids, Category 2 (H272)
Eye Damage/Irritation, Category 2A (H319)
Specific Target Organ Toxicity (Repeated Exposure), Category 2 (H373)
Hazards to the Aquatic Environment Long-Term (Chronic), Category 2 (H411)

Hazard Pictograms:



Signal Word: Danger

Hazard Statements: H205 – May mass explode in fire
H272 - May intensify fire; oxidizer
H319 - Causes serious eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

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Precautionary Statements:

- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P220 - Keep away from clothing and other combustible materials.
- P234 - Keep only in original packaging.
- P250 - Do not subject to grinding/shock/friction.
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 - Wash exposed skin thoroughly after handling.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P305+P338+P351 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P313+P337 - If eye irritation persists: Get medical advice/attention.
- P314 - Get medical advice/attention if you feel unwell.
- P370+P372+P380+P373 - In case of fire: explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
- P391 - Collect spillage.
- P401 - Store in accordance with all applicable regulations.
- P501 - Dispose of contents/container in accordance with all applicable regulations.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS No.	% w/w	Ingredient Classification (GHS)
Ammonium Nitrate	6484-52-2	40-80	H272 - Oxidizing Solid H319 - Eye Damage/Irritation H411 - Hazards to Aquatic Env. - Long-Term (Chronic) Hazard
Calcium Nitrate	10124-37-5	10-40	H272 - Oxidizing Solid H319 - Eye Damage/Irritation H411 - Hazards to Aquatic Env. - Long-Term (Chronic) Hazard
Mineral Oil	64742-53-6	3-7	H305 - Aspiration Hazard H316 - Skin Corrosion/Irritation H320 - Eye Damage/Irritation
Aluminum	7429-90-5	0-5	H228 - Flammable Solid
Petroleum Hydrocarbon Mixture	N/A	0.5-3	H373 - Specific Target Organ Toxicity (Repeated Exposure)

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There may be ingredients not listed above that are inert, are not hazardous chemicals as defined by OSHA regulations, or are found below the cut-off concentrations for specific hazard classes (e.g., Germ Cell Mutagenicity or Specific Target Organ Toxicity). Contact your MAXAM representative if you have questions or concerns.

X SECTION 4 – FIRST AID MEASURES

In Case of Accidental Detonation: Seek medical help immediately as necessary.

Inhalation: Product is a viscous semi-solid emulsion. Do not breathe dusts, fumes, gases, mists, vapors, or spray. Seek immediate medical attention for breathing difficulties.

Skin Contact: Wash exposed skin thoroughly after handling. If exposed or concerned, get medical advice/attention.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Ingestion: Rinse mouth. Immediately call a poison center/doctor if you feel unwell.

X SECTION 5 – FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: None. DO NOT fight fires involving explosives. Evacuate the area. DO NOT attempt to fight fires involving product. Withdraw to a safe distance and allow the fire to burn out.

Specific Hazards Arising from the Chemical: Product is an oxidizer-fuel emulsion and may explode when subjected to extreme heat or shock. Burning will release hazardous combustion byproducts including Carbon Monoxide (CO), Carbon Dioxide (CO₂), Nitrogen Oxides (NO_x), and ammonia.

Special PPE Requirements and Precautions for Firefighters: Explosion risk in case of fire. DO NOT attempt to fight fires involving product. Withdraw to a safe distance and allow the fire to burn out. Act only to avoid fire from spreading. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding/shock/friction.

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SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions, PPE, and Emergency Procedures: Contact the manufacturer, CHEMTREC (USA), or CANUTEC (Canada). Evacuate unnecessary personnel. Wear protective gloves, clothing, and eye/face protection to prevent skin and eye contact, and ingestion. Avoid breathing combustion byproducts, dusts, fumes, gases, mists, vapors, and spray. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding/shock/friction.

Clean up Methods: Prevent entry into the environment (e.g., air, water, and sewer). Contain spill with inert materials. Collect spillage using non-sparking tools and implements and place in suitable container.

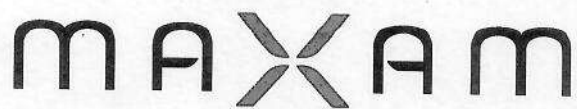
SECTION 7 – HANDLING AND STORAGE

Precautions for Safe Handling: Handle with Care. Keep only in original packaging. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Utilize proper PPE. Avoid exposure to skin and eyes, and ingestion. Avoid breathing combustion byproducts, dusts, fumes, gases, mists, vapors, and spray. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding/shock/friction.

Conditions for Safe Storage: Store material in cool, dry, well ventilated magazines approved for explosives. DO NOT store product with explosives. Stored locked up. Store away from heat, hot surfaces, sparks, open flames and other ignition sources. Store away from incompatible materials identified in Section 10. Keep only in original packaging and keep packaging containers closed when not in use. Check for spills and container integrity regularly.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

Ammonium Nitrate	
Exposure Limit:	5 mg/m3 PEL-TWA Respirable
Engineering Controls:	Handle per good industrial hygiene and safety practices.
Individual Protection Measures:	Respiratory, gloves, clothing, eye/face protection.



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Calcium Nitrate	
Exposure Limit:	N/A
Engineering Controls:	Handle per good industrial hygiene and safety practices.
Individual Protection Measures:	Respiratory, gloves, clothing, eye/face protection.
Mineral Oil	
Exposure Limit:	5 mg/m ³ PEL
Engineering Controls:	Handle per good industrial hygiene and safety practices.
Individual Protection Measures:	Respiratory, gloves, clothing, eye/face protection.
Aluminum	
Exposure Limit:	15 mg/m ³ TWA (total dust) (PEL)
Engineering Controls:	Handle per good industrial hygiene and safety practices.
Individual Protection Measures:	Respiratory, gloves, clothing, eye/face protection.
Petroleum Hydrocarbon Mixture	
Exposure Limit:	5 mg/m ³ PEL
Engineering Controls:	Handle per good industrial hygiene and safety practices.
Individual Protection Measures:	Respiratory, gloves, clothing, eye/face protection.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Rubber-like emulsion packaged in woven or film tubes 2.0-6.5 inches (50-165 mm) in diameter by 16 inches (400 mm) in length.

Physical State: Rubber-like emulsion.

Color: Emulsion is light brown or yellow.

Odor/Odor Threshold: Odor of fuel oil or mineral oil.

pH: N/A

Melting Point: N/A

Freezing Point: N/A

Boiling Point/Boiling Range: N/A

Flash Point: N/A

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Evaporation Rate: N/A
Flammability: N/A
Upper/Lower Flammability or Explosive Limit: N/A
Vapor Pressure: N/A
Vapor Density: N/A
Relative Density: 1.0-1.5 g/cm³
Solubility: N/A
Partition Coefficient (n-octanol/water): N/A
Auto-Ignition Temperature: N/A
Decomposition Temperature: N/A
Viscosity: N/A

X SECTION 10 – STABILITY AND REACTIVITY

Reactivity: Product is a USDOT and Canadian ERD Division 1.5D Explosive.

Chemical Stability: Stable under recommended handling and storage conditions noted in Section 7.

Possibility of Hazardous Reactions: May explode when subjected to extreme heat or shock.

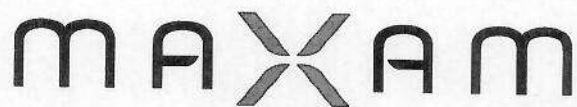
Conditions to Avoid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not subject to grinding/shock/friction. Avoid contact with incompatible materials.

Incompatible Materials: Explosives, poison gasses, flammable liquids, toxic liquids, and corrosives.

Hazardous Decomposition Products: Carbon Monoxide (CO), Carbon Dioxide (CO₂), Nitrogen Oxides (NO_x), Sulfur Oxides (SO_x), ammonia, and other combustion gasses.

X SECTION 11 – TOXICOLOGICAL INFORMATION

Likely Routes of Exposure (Inhalation, Skin and Eye Contact, Ingestion): Product is a viscous semi-solid emulsion. Inhalation and ingestion are unlikely. Skin and eye contact are possible in the absence of using appropriate protective gloves, clothing, eye/face protection.



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Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Skin and eye contact can cause mild to serious irritation.

Delayed and Immediate Effects from Exposure: Skin and eye contact can cause mild to serious irritation both as a delayed and immediate effect.

Chronic Effects from Short and Long-Term Exposure: The petroleum-based ingredient has been classified under the Specific Target Organ Toxicity hazard class and is present above its respective cut-off concentration. Given the physical characteristics of the emulsion and the small concentration of the petroleum based ingredient, chronic effects are unlikely.

Numerical Measures of Toxicity: N/A

Is chemical listed in National Toxicology Program (NTP) Report on Carcinogens, a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs, or by OSHA?: No.



SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity (Aquatic and Terrestrial): Ammonium nitrate and calcium nitrate are classified as being toxic to aquatic life with long term effects.

Persistence and Degradability: N/A

Bioaccumulative Potential: N/A

Mobility in Soil: N/A

Other Adverse Effects: N/A



SECTION 13 – DISPOSAL CONSIDERATIONS

Recommendations: Dispose of contents/packaging in accordance with all applicable regulations. Contact the manufacturer or CHEMTREC for advice on correct disposal methods.



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SECTION 14 – TRANSPORT INFORMATION

Agency	UN No.	Proper Shipping Name	Hazard Class	PG	EX No.	Other
USDOT	UN0332	Explosive, Blasting, Type E	1.5D	II	See Below	ERG 112

RIOHIT™ 200 EX1999030391

RIOHIT™ 250 EX1999030393

RIOHIT™ 250 MS EX1999030393

SECTION 15 – REGULATORY INFORMATION

Product is subject to at least in part of the following regulations during its life cycle:

- USDOT Hazardous Materials (49 CFR 171-180);
- Canada Transportation of Dangerous Goods (TDG);
- Canada Explosives Regulatory Division (CN ERD);
- OSHA Hazard Communication Standard (29 CFR 1910.1200);
- USEPA Solid and Hazardous Waste Regulations upon disposal;
- USEPA EPCRA (40 CFR Parts 370, 372 and 355);
- US ATF Commerce in Explosives (27 CFR Part 555).

SECTION 16 – OTHER INFORMATION

This Safety Data Sheet (SDS) was prepared in accordance with the US OSHA Hazard Communication Standard, the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), and Canadian WHMIS 2015.

The information included in this SDS is based on MAXAM's current knowledge and is intended for use by persons having appropriate training and knowledge. The properties and characteristics indicated are based on research and experience and are believed to be accurate.

Revised: February 23, 2016