

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

Name: **nitrate ester / oxidizer - base propellant, explosive**

Trade Names and Synonyms: ***Blackhorn 209 Solid Propellant***

Distributed By: **WESTERN POWDERS, INC.**
 P.O. Box 158
 Miles City, Montana 59301
 Telephone: (406)234-0422
 Toll Free: (800)497-1007

Transportation Emergencies – Chemtrec – 1-800-424-9300

Section 2 - HAZARD IDENTIFICATION

**Emergency Overview – Danger! Extremely Flammable – Explosive.
 Accidental Fire or Explosion is Likely to Cause Severe Injury or Death.
 Avoid Exposure to all Sources of Heat or Flame, Electrical Sparks, Static Electricity, and Impact Shock.**

**OSHA Regulatory Status - This product may be considered to be a hazardous chemical under OSHA Hazard
 Communication Standard 29 CFR 1910.1200.
 Applicable OSHA Classifications: Explosive, Toxic, Skin and Eye Irritant**

**Potential Health Effects – Eye contact may cause irritation. Acute contact may cause skin irritation. Acute
 exposure may cause irritation to nose, mouth, throat and lungs. Ingestion may cause irritation to
 gastrointestinal tract. Nausea, vomiting and abdominal pain may also occur.**

Neither this product nor any of its ingredients are listed as carcinogens by OSHA, NIOSH-NTP and IARC

**Potential Environmental Effects: Ecological studies on this product unknown. Some components are known to be
 harmful to aquatic organisms.-**

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS #	wt. %
Nitrate ester	Not disclosed	30 - 90
Stabilizer, Proprietary	Not disclosed	1 - 5
Oxidizer, Mineral	Not disclosed	0 - 25
Oxidizer, Organic	Not disclosed	0 - 25
Carbonaceous Substance	Proprietary	0 - 10

Section 4 - FIRST AID MEASURES

EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician.

SKIN : Immediately wash with soap and water for at least 15 minutes. Call a physician if needed. If clothing comes in contact with the product, the clothing should be removed immediately and should be laundered before re-use.

Section 4 - Continued

INGESTION: . Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

INHALATION:

- If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep person warm and at rest. Call physician.
- In event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately.
- In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

Section 5 - FIRE FIGHTING MEASURES

DANGER!! **Extremely Flammable – Explosives**
Accidental Explosion May Cause Severe Injury or Death
Evacuate the area immediately in case of emergency.

FLASH POINT: Not Determined
FLAMMABLE LIMITS: Not Determined
AUTOIGNITION TEMPERATURE: 160°C – 170°C (320° F - 338°F) – nitrate ester

EXTINGUISHING MEDIA:

Apply large volumes of water as quickly as possible from automatic sprinklers or with fire hose from a distant, protected location. FIGHT EXPLOSIVE FIRES ONLY FROM WELL PROTECTED, DISTANT (FROM POINT OF FIRE) LOCATION. Since product is self-oxidizing, smothering agents such as dry chemical, carbon dioxide, or foam are ineffective.

PERSONAL PROTECTION FOR FIREFIGHTING

Self contained breathing apparatus (SCBA) and protective clothing, to include impervious boots, gloves, hard hat, and chemically impermeable suit. Eye and face protection. Wash all clothing prior to reuse.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Product is self oxidizing. Products are propellant explosives and are extremely flammable and readily ignited. Protect from fire, sparks, impact and high temperatures.
DO NOT move or approach containers which have been damaged due to exposure to heat. Keep unnecessary people away, isolate hazard area. Use only trained and qualified clean up personnel wearing appropriate protective clothing to clean up heat damaged product.

HAZARDOUS DECOMPOSITION PRODUCTS: None expected, if stored and handled as in Section 7.

HAZARDOUS PRODUCTS OF COMBUSTION. Combustion products vary depending on fire conditions and other combustibles present in the fire. The predominant products will be carbon dioxide, and nitrogen oxides. Under some conditions, methane, carbon monoxide, irritating aldehydes and carboxylic acids, and hydrogen cyanide may be formed.

Section 6 - ACCIDENTAL RELEASE MEASURES**SPILL PROCEDURES:**

Clean up spills immediately using soft bristle brush and conductive rubber or plastic shovel. Use caution, material is sensitive to initiation from sources such as heat, flame, friction or sparks.

AIR RELEASE: Not applicable

Section 6 - Continued**WATER RELEASE:**

- This material is heavier than water. Create an overflow dam with filtration capabilities to retain material.
- Divert water flow or stop if possible. Gather wet material using non-sparking or plastic utensils.
- Keep material damp until ready for disposal.

LAND SPILL:

- Clean up of spill materials may be accomplished using non-sparking or plastic utensils. Wear non-flammable or flame retardant clothing at all times. Wet all spill materials prior to initiating clean up procedure.
- Material may best be destroyed by controlled open burning in small quantities (maximum about 1 pound) in piles not over 1 inch deep. Use an ignition train of slow-burning, combustible materials to permit retreat to a safe distance before powder is ignited. Stay upwind, do not breathe products of combustion. Burn only with permission of all regulatory agencies.

WASTE DISPOSAL:

- If this product becomes a waste, it meets the criteria of a hazardous waste, as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D003
- If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly.
- Waste material may best be safely destroyed by controlled open burning in small quantities (maximum about 1 pound) in piles not over 1 inch deep. Use an ignition train of slow-burning, combustible materials to permit retreat to a safe distance before powder is ignited. Stay upwind, do not breathe products of combustion. Burn only with permission of all appropriate local regulatory authorities.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Section 7 - HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS:

- For handling and storage requirements see 29 CFR 1920.109. Also see <<Properties and Storage of Smokeless Powder>> published by the SPORTING ARMS AND AMMUNITION MANUFACTURES' INSTITUTE; INC. (SAAMI), PO Box 838, Brandford, CT 06405.
- This product may react with acids, oxidizing agents, alkalizes or amines (organic and inorganic) and should not be stored near such materials.
- Avoid exposure to sunlight or artificial ultraviolet light.
- Recommended storage conditions -: 21°C (70°F) 50% relative humidity.
- Keep away from heat, sparks and open flame.
- Store in a cool, dry place.
- Do not store smokeless powder in the same area with solvents, flammable gases or highly combustible materials.
- Must be stored in original DOT approved containers or shipping container.
- Do not smoke in areas where powder is stored or used. (50 ft. minimum distance required).
- Do not keep old or salvaged powders. Check old powders for deterioration regularly. Destroy deteriorated powders immediately.

Section 7 – continued

- Empty containers may contain residues of powder, and should be treated as hazardous waste.

ENGINEERING CONTROLS:

Adequate ventilation should be provided to keep dust concentrations below acceptable exposure limits. Discharges from the ventilation system should comply with applicable air pollution control regulations.

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE:

Eliminate ignition sources and prevent build-up of static electric charges. Thoroughly clean up all powder grains and dust residues in the maintenance and repair areas before starting work.

Section 8 - EXPOSURE CONTROL / PERSONAL PROTECTION

ESTABLISHED EXPOSURE LIMITS

COMPONENT	OSHA (PEL)	ACGIH (TLV)
Nitrate ester	None established	None established
Stabilizer, Proprietary	None established	
Oxidizer, Mineral	None established	
Oxidizer, Organic	None established	
Carbonaceous Substance	None established	

PERSONAL PROTECTIVE EQUIPMENT

- Safety glasses or goggles with side shields.
- Impervious gloves.
- Appropriate respiratory protection required when exposure to airborne contamination is likely to exceed acceptable limits for nuisance dust. Respirators should be selected and used in accordance with OSHA Subpart I (29 CFR 1910.134) and manufacturer’s recommendations.
- Flame-retardant cotton coveralls and conductive safety shoes.

ENGINEERING CONTROLS

Adequate ventilation should be provided to keep dust concentrations below acceptable exposure limits. Discharge from the ventilation system should comply with applicable air pollution control regulations. Use a local mechanical ventilation system if needed, preferably with explosion proof construction, and with a suitable dust filter installed at inlet to suction piping to the system to prevent accumulation of explosive dust in ventilation piping and blower.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Granular Solid Mixture, silvery gray to black
Freezing Point	Not Applicable
Boiling Point	Not Applicable
Decomposition Temperature	Decomposition becomes measurable above 50° C (122°F)
Specific Gravity	1.1 – 1.6
Bulk Density	0.5 – 1.1 (g/cc)

pH 25 Deg. C	Not Applicable
Solubility in Water	Negligible
Volatiles, Percent By Volume	<2
Vapor Pressure 25 Deg. C	<1mm Hg
Evaporation Rate	Negligible
Vapor Density	Not Applicable
Molecular Weight	Not Applicable - mixture
Odor	None
Coefficient of Oil/Water Distribution	No Data

Section 10 - STABILITY AND REACTIVITY

INSTABILITY: Unstable with heat, unstable with static charges, and unstable with impact. Not usual hazards when stored and used properly.

INCOMPATIBILITY: Incompatible with acids, bases, oxidants, amines.

DECOMPOSITION: Hazardous gases produced are carbon monoxide, carbon dioxide, oxides of nitrogen.

HAZARDOUS POLYMERIZATION: Will not occur.

FIRE AND EXPLOSION DATA: Ignition temperature: 160° - 170° C (320° - 338° F)
Decomposition begins at approximately 50°C (122°F)

OTHER CONDITIONS TO AVOID Direct sunlight.

Section 11 - TOXICOLOGICAL INFORMATION

ROUTES OF ABSORPTION: Inhalation Skin Ingestion Eye Contact

No component of this solid mixture is listed as a carcinogen in IARC, NIOSH-NTP, or OSHA Lists.

TOXICITY DATA:

Nitrate ester: Rat, Oral LD₅₀ : >5000 mg/kg

Section 12 - ECOLOGICAL INFORMATION

AQUATIC TOXICITY - Some components of this product are known to be toxic to aquatic organisms:

Section 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

- If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D003
- If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly.

Section 13 - Continued

- Material may best be safely destroyed by controlled open burning in small quantities (maximum about 1 pound) in piles not over 1 inch deep. Use an ignition train of slow-burning, combustible materials to permit retreat to a safe distance before powder is ignited. Stay upwind, do not breathe products of combustion. Burn only with permission of all local regulatory authorities.

Section 14 - TRANSPORT INFORMATION

This material is regulated as a DOT Hazardous Material

**US DOT Classification: Land – Propellant, Solid, 1.3C, UN 0499,
Land - Propellant, Solid for Small Arms (100 pounds or less), NA 3178, 4.1**

Section 15 - REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) : all components of this product are listed in the TSCA Inventory.

SARA Title III, Sections 311/312 : Hazard Categories per 40 CFR 370.21 :

**Acute (health) - Yes
Chronic (health) – No
Reactive (physical) - Yes
Sudden Release (physical) – Yes**

CERCLA Sections 102a/103 – Hazardous Substances – RQ: Not applicable

SARA Title III, Section 313 covered components: Not applicable

Section 16 - OTHER INFORMATION

Prepared 11/15/2007 by Western Powders, Inc.

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