

Accurate Energetic Systems, LLC.

MATERIAL SAFETY DATA SHEET

CARTRIDGE ASSEMBLY

MSDS NO. 2007.817

HAZARD RATING: Health - 2 Flammability - 3 Reactivity - 4 Special - Propellant

SECTION I - MANUFACTURER'S INFORMATION

Manufacture/Distributor Name: Accurate Energetic Systems, LLC.
Address: 5891 Highway 230 West, McEwen, TN 37101
Telephone Number: (931) 729-4207
Emergency Telephone Number: 1-800-255-3924
Date Prepared: 8/17/07 **Supercedes:**
Product Name: Cartridge Assembly
Proper Shipping Name: Cartridges, Oil Well
Hazard Class: 1.4C or 1.4D
UN Number: 1.4C=UN0278, 1.4D=UN0410
Hazard Class Label: UN0278=1.4C Label
UN0410=1.4D Label

Trade Names and Synonyms: Cartridge Assembly, Bullet Assembly, E-Gun Cartridge Assembly, Cor-Gun Cartridge Assembly, CM Cartridge Assembly, Cor-Gun medium Cartridge, CM Powder Load

SECTION II - HAZARD IDENTIFICATION

Material or Component

Propellant Explosive, TK-1 Ignition Mix
Propellant Explosive, Bullseye Smokeless Powder
Propellant Explosive, Sharpshooter Smokeless Powder
Propellant Explosive, Solid, Hipel 710
High Explosive, HNS
High Explosive, HMX
Zinc Sterate
Green Adhesive/Sealing Compound
Corrosion Resistant Seal
Iron

SECTION III - PHYSICAL DATA

Propellant Cartridge Assemblies used in bullet perforators and sidewall coring guns for oil well applications.

SECTION IV - FIRE AND EXPLOSION HAZARDS

Flash Point: n/a
Flammable Limits: LEL n/a UEL n/a

Extinguishing Media: n/a

Special Fire Fighting Procedures:

Fight fires from a safe distance or from an explosion-resistant bunker. If large quantities are involved, retreat to a safe location. In North America, consult Guide 114 of the North America Emergency Response Guide for further details.

Unusual Fire And Explosion Hazards:

May detonate or burn with impact, friction, or on heating. Combustion generates extreme heat, hot particles, and projectiles. Contains oxidizer and fuel. Does not require air for combustion.

SECTION V - REACTIVITY/COMPATIBILITY DATA

Stability:

Stable under normal conditions. Becomes unstable when subjected to excessive heat, friction, impact, sparks, open flames, direct sunlight, or UV radiation.

Incompatibility (materials to avoid):

Avoid alkalines, acids, oxidants, amines

Hazardous Decomposition Products:

Oxides of nitrogen, carbon monoxide, carbon dioxide

Hazardous Polymerization:

Will not occur

SECTION VI - HEALTH HAZARD DATA

Routes Of Entry:

| | |
|--------------------|---|
| Eye? | Unlikely |
| Inhalation? | Yes (dust/post-firing fumes) |
| Skin? | Yes (avoid skin contact) |
| Ingestion? | Yes (improper personal hygiene practices) |

Effects Of Over-Exposure:

| | |
|------------------|---------------------------|
| Acute - | Slight to serious effects |
| Chronic - | Not fully known |

Signs And Symptoms Of Exposure:

Irritation to nose, mouth, throat, lungs, and skin. Dizziness, headache, nausea, vomiting, and abdominal pains may occur. Dilation of blood vessels with drop in blood pressure and headache, cyanosis, and mental confusion may result from the nitroglycerin.

Medical Conditions Generally Aggravated By Exposure:

Anemia and cardiovascular disease. Personnel should be in generally good health

Emergency First Aid Procedures:

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|---------------------|--|
| Eye - | Flush with water for 15 minutes. Remove contact lenses prior to flushing, if applicable. Get medical attention. |
| Inhalation - | Remove to fresh air. Give oxygen if necessary. Get medical attention. |
| Skin - | Wash with soap and warm water. Get medical attention for rash or irritation. |
| Ingestion - | If conscious, drink large quantities of water and induce vomiting immediately. Contact a physician or Poison Control Center immediately. |
| Other - | n/a |

Carcinogenicity:

| | |
|-------------------------|------------|
| NTP? | Not listed |
| IARC Monographs? | Yes (*) |
| OSHA Regulated? | Not listed |

NOTE: (*) Per IARC 2B: dinitrotoluene - possibly carcinogenic to humans; Per NIOSH-X: dinitrotoluene - carcinogen defined with no further categorization

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Follow If Material Is Spilled Or Released:

Remove all sources of ignition. Avoid any and all situations which could initiate the material, such as friction, impact, heat, sparks, or electrostatic discharge. Wet down material with water. Sweep up spill with a soft bristle brush and a non-sparking pan or shovel. Place material in a properly labeled storage container and store in an approved storage magazine for further disposition.

Waste Disposal Method:

Dispose of in accordance with applicable local, state, and federal regulations.

Precautions To Be Taken In Handling And Storage:

Handle with care. Store only in original shipping container for explosion-venting purposes. Store only in authorized magazine with compatible material and away from all sources of ignition, flammable materials, and direct sunlight. Store in a cool (70°F), dry place. Fire resistant and heat insulated enclosure recommended.

Other Precautions:

Highly flammable. Keep away from any heat source. Consult Accurate Arms Reloading Manual for further details on handling and storing of smokeless powders.

SECTION VIII - PERSONAL PROTECTION INFORMATION

Respirator Protection (Specify Type):

Dust mask is recommended. If significant dusting occurs, wear a NIOSH/MSHA approved respirator with organic vapor cartridge and high efficiency dust prefilter.

Ventilation:

| | |
|-------------------------------|--|
| Local Exhaust - | Hoods for dusty operations are recommended. |
| Mechanical (General) - | General ventilation necessary. |
| Special - | Dust collection system required if hoods are utilized. |
| Other - | n/a |

Protective Gloves:

For prolonged or repeated skin contact, impervious gloves are recommended.

Eye Protection:

Safety glasses or goggles that meet or exceed ANSI Z87.1 (latest revision)

Other Protective Clothing Or Equipment:

Flame-retardant cotton clothing; conductive-soled footwear

Work/Hygienic Practices:

Wash hands thoroughly after handling; daily clothing change; daily shower; no eating or drinking in exposed locations

SECTION IX - SPECIAL PRECAUTIONS

Precautions To Be Taken:

CAUTION: Keep away from heat, friction, impact, and sources of electrical energy. Only highly trained and qualified personnel should utilize this material. Follow all safety regulations and precautions when handling, storing, or processing propellant material.

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