

# APPLIED ENERGY TECHNOLOGY CORP.

2105 S. HARDY DRIVE • SUITE #20 • TEMPE, ARIZONA 85282  
PHONE (480) 894-1719 • FAX (480) 894-8375

## Material Safety Data Sheet

### Section 1. Chemical Product and Company Identification

**Product Name:** Cartridge, Power Device

**Manufacturer:** Applied Energy Technology Corp.  
2105 S. Hardy Drive Suite #20  
Tempe, AZ 85282

**Commercial Name(s):** Fire Extinguisher Cartridge

**Supplier:** Applied Energy Technology Corp.  
2105 S. Hardy Drive Suite #20  
Tempe, AZ 85282

#### IN CASE OF AN EMERGENCY/ INCIDENT:

INFOTRAC (24 HOUR): (800) 535-5053  
EMERGENCY PHONE: (480) 894-1719  
INFORMATION : (480) 894-1719  
(M-TH. 7:00 a.m. - 4:30 p.m. PS)

REFER TO **GUIDE 114 OF THE NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK.**

ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (480-894-1719) FOR ASSISTANCE.

### Section 2. Composition and Information on Ingredients

Hazardous Components	CAS #	ACGIH TLV
Hexanitrostilbene (HNS)	20062-22-0	5MG/M <sup>3</sup>
Lead Azide, Initiating Explosive	13424-46-9	0.15M <sup>3</sup>
Zirconium Metal Powder	7440-67-7	5MG/M <sup>3</sup>
Potassium Perchlorate	7778-74-7	5MG/M <sup>3</sup>

**Data on Ingredients:** Zirconium Metal Powder and Potassium Perchlorate is a Pyrotechnic Compound (Zr/KCLO<sub>4</sub>).

### Section 3. Hazards Identification

**Health Hazard:** Before detonation - none. The primary hazards from improper handling and misuse of these components are physical wounds resulting from detonation. Detonation may cause trauma to eyes, skin, and ear due to loud noise and high energy shrapnel.

**Appearance and Odor:** Metal cases approximately 3/4" Hex x 1/4" long; No odor.

**Routes of Entry:** Inhalation and Skin

**Signs and Symptoms of Exposure:** Close proximity during detonation may cause damage to eyes, ear, and skin. Post detonation fumes are noxious.

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#### Section 4. First Aid Measures

**Emergency and First Aid Procedures:**

Move victim to fresh air. Call emergency medical care. Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### Section 5. Fire Fighting Measures

**Flash Point (Method Used):**

Auto Ignition Temperature 400°F

**Flammable Limits:**

Keep fire away.

**Extinguishing Media:**

Water fog or spray to cool; Foam to extinguish.

**Special Fire Fighting Procedures:**

Maintain 50 to 100 foot distance. Cool and douse with water. Foam from distance.

**Unusual Fire and Explosion Hazards:**

Mass detonating from excessive heat (400°F+) will produce shrapnel to approximately 50 ft.

#### Section 6. Accidental Release Measures

**Steps to be Taken in Case Material is Released :**

If components are released from packaging and still intact individually, handle sparingly to repack. Wear approved eye and ear protection and static suppressor. If individual components are released from packing and individually are damaged and explosive material is visible or separating, use extreme caution not to expose to friction, static, or impact. Do not handle. Consult manufacturer in either case.

#### Section 7. Handling and Storage

**Precautions to be taken in Handling and Storing:**

Wear eye and ear protection and static grounding. **DO NOT** remove black rubber shunt plug or other shunting devices until after installation.

**Other Precautions:**

Keep away from static producing materials, open flame. **DO NOT** subject to any electronic test equipment.

#### Section 8. Exposure Controls and Personal Protection

**Personal Protection:**

**ALWAYS** wear eye protection, personal static grounding, and ear protection when handling. Use **ONLY** Cotton Protective Gloves.

**Personal Protection if Detonated:**

Respiratory Protection mask.

### Section 9. Physical and Chemical Properties

Physical state and appearance:	Metal cases approximately 3/4" Hex x 1 1/4" long.
Boiling Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Solubility in Water:	N/A
Specific Gravity:	N/A
Melting Point:	N/A
Evaporation Rate:	N/A
P/H:	N/A
Odor:	No odor.

### Section 10. Stability and Reactivity

Stability:	Stable
Conditions to Avoid:	Excessive heat (350°F plus), Mechanical shock or impact, Electro-static Discharge
Incompatibility:	N/A
Hazardous Decomposition or By-Products:	If detonated, fumes are noxious.
Hazardous Polymerization:	Will not occur.

### Section 11. Toxicological Information

See Section 3.

**Section 12. Ecological Information**

Direct Environment Effects Should  
Material be Released into Environ-  
ment: N/A

**Section 13. Disposal Considerations**

Waste Disposal Method: Consult with Manufacturer.

**Section 14. Transport Information**

D.O.T/U.N. Hazardous Materials  
Description/ Proper Shipping  
Name: Cartridges, Power Device

D.O.T/U.N. Hazardous Class,  
Division, Compatibility Group: 1.4S

U.N. Identification Number: UN0323

Packaging Group: II

**Section 15. Regulatory Information**

Bureau of Explosives: This product is considered to be Hazardous as defined by 29 CFR 1910.1200.

Department of Transportation: This product is considered to be Hazardous as defined by 49 CFR.

OSHA: This product is considered to be Hazardous as defined by 29 CFR 1910.1200.

**Section 16. Other Information**

Contract/Solicitation Number:

Manufacturer's Cage Code: 57597

Contractor's Name: Applied Energy Technology Corp.

Contractor's Cage Code: 57597

NSN:

Specification Number/Revision  
Level:

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**Section 16. Other Information (Cont)**

<b>Other:</b>	This MSDS has been prepared in accordance with 29 CFR 1910.1200, ANSI Z400.1, and Federal Standard No. 313.
<b>MSDS Status:</b>	Revised Document in its entirety.
<b>Abbreviation Legend:</b>	N/A = Not Applicable

**Notice to Reader**

The Cartridges may pose unknown hazards and should be handled with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is installed or deteriorates, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Applied Energy Technology Corp. assumes no responsibility for the completeness or accuracy of the information contained herein.