0004

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910-1200. Standard must be
consulted for specific requirements.

IDENTITY (As Used on Label and List)
Accudet Electronic Detonators

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved jan
OMB No. 1218-0072
Note: Blank spaces are not permitted. If any item is not applicable,
Note: Article, explosives:
1.4B UN0255 Electronic Detonators

Section I

Manufacturer's Name
Special Devices, Inc.
Address (Number, Street, City, State and ZIP Code)
14370 White Sage Road
Moorpark, CA 93021

Emergency Telephone Number
1-800-424-9300 (CHEMTEL)
Telephone Number for Information
1-888-532-3387
Date Prepared
July 11, 2005

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity: Common Name(s))		OSHA PELACGH TLV	Other Limits Recommended	% optional
Zirconium	CAS# 7440-67-7	5mg/M^3 TLV		Proprietary
Potassium Perchlorate	CAS# 4778-74-7	10mg/M^3 TLV		Proprietary
Viton	CAS# 25190-89-0	N/A		Proprietary
PETN, Pentaerythritol tetranitrate,	CAS# 78-11-5	N/A		
Lead Azide, Pb $(N_3)_2$	CAS# 13424-46-9	ACGIH: 0.05 mg/M3 TWA, lead, elemental, and inorganic compounds, as Pb.		
Lead Styphnate, Lead Trinitroresorcinate	CAS# 15245-44-0	OSHA : 50 µg/M3 PEL as Pb. For additional information, see 29 CFR 1910.1025		

The principal hazard of this material is its explosive nature. Explosive components are PETN and lead compounds sealed in a metal shell. Loose unconfined powder is easily ignited. The dry powder presents a dust explosion hazard. IF the powder is finely dispersed, the electrostatic energy developed during separation of the single particle may be sufficient to self-ignite the dust cloud. Confined powder burns rapidly to deflagration and ultimate explosion.

Section III – Physical/Chemical Characteristics

Boiling Point
N/A (No Available)

Specific Gravity (H_2O = 1)
>1

Vapor Pressure (mm Hg.)
N/A (No Available)

Melting Point (explodes)
>600F

Vapor Density (AIR = 1)
N/A (No Available)

Evaporation Rate (Butyl Acetate = 1)
N/A

Solubility in Water
Insoluble in Water

Appearance and Odor
Aluminum or copper shells with attached PVC or polyethylene coated copper or iron leg wires. No odor.

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
N/A (No Available)	N/A (No Available)		

Extinguishing Media
Do not attempt to extinguish fires. Withdraw personnel immediately. Allow fire to burn itself out.

Special Fire Fighting Prodecures
Do not attempt to extinguish fires. Withdraw personnel immediately. Allow fire to burn itself out.

Unusual Fire and Explosion Hazards
May explode when subjected to flame, heat, impact, friction, electric current, electrostatic or radio frequency energy. Do not exceed 150°F (66°C). Avoid toxic fumes from fire.

Secton V - Reactivity Data

Stability: Unstable

Conditions to Avoid: Heat, Flame, Sparks, Impact, Friction, ESD and any other potential ignition stimuli

Stable: X

Incompatibility (Materials to Avoid): Acids, Bases, Peroxides, Others

Hazardous Decomposition or Byproducts: Carbon monoxide and lead fumes.

Hazardous Polymerization — May Occur:

Will Not Occur: X

Conditions to Avoid: N/A

Secton VI - Health Hazard Data

Route(s) of Entry: Inhalation? YES Skin? Not Available Ingestion? Unlikely

Health Hazards (Acute and Chronic)

Moderate skin irritation (localized dermatitis) effects after handling/exposure. Inhalation may cause irritation of the mouth, throat, and esophagus. Eye contact caused severe irritation.

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

Lead and lead compounds are listed in the 1987 IARC Monographs as possible human carcinogens (Group 2B). Lead is not listed in the NTP annual report on carcinogens.

Signs and Symptoms of Exposure: Not available

Medical Conditions Generally Aggravated: Not available

Emergency and First Aid Procedures

Inhalation: If inhaled in small amounts, do not induce vomiting. Remove affected person to well ventilated area. Seek prompt medical attention.

Skin: Wash effected area thoroughly with soap and water after exposure. If a skin laceration is encountered, treat as any other cut or scrape by thoroughly cleansing the injured area and apply a protective dressing.

Eyes: Flush eyes with steady stream of water.

Ingestion: If inhaled or ingested in small amounts, do not induce vomiting.

The above applies to components internal to the detonator. No health effects are likely when safe blasting practices are employed.

Secton VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Small spills (<1gram) wipe with water/alcohol soaked cloth. Remove any potential ignition sources. Thoroughly water wet and contain larger spills. Collect waste materials and place in approved disposal bin for prompt disposal in a locally approved manner.

Waste Disposal Method

Material may be ignited, burned, or disposed by approved methods in accordance with federal, state, and local regulations.

Precautions to Be Taken in Handling and Storing

Avoid sparks, ESD, high temperature or pressure. Best if kept dry by desiccation in conductive containers.

Other Precautions

Handling and use should be limited to personnel who are authorized and trained in the handling of explosives and pyrotechnics. Dispose of powder as explosive waste.

Section VIII - Control Measures

Respiratory Protection (Specify Type): Avoid breathing fumes from detonation.

Ventilation — Local Exhaust: No — Special: N/A

Mechanical: N/A — Other: N/A

Protective Gloves: Not required

Eye Protection: Not required

Other Protective Clothing or Equipment: N/A

Work/Hygienic Practices: Avoid breathing fumes from detonation.

Section IXI – Special Precautions

COMPLY WITH THE SAFETY LIBRARY PUBLICATION NO. 4 "WARNINGS AND INSTRUCTIONS" AS ADOPTED BY THE INSTITUTE OF MAKERS OF EXPLOSIVES.
TRANSPORTATION, STORAGE AND USE MUST COMPLY WITH OSHA SAFETY AND HEALTH STANDARDS 29CFR1910.109, APPLICABLE MSHA REGULATIONS, THE DOT AND HAZARDOUS MATERIALS REGULATIONS, BATF REQUIREMENTS AND STATE AND LOCAL TRANSPORTATION, STORAGE AND USE REGULATIONS AND ORDINANCES.
DOT or IMDG proper shipping description: Detonators, Electronic, 1.4B, UN0255
Consult IME Safety Library Publication No. 22, RECOMMENDATIONS FOR THE SAFE TRANSPORTATION OF DETONATORS IN A VEHICLE WITH CERTAIN OTHER EXPLOSIVE MATERIALS AND THE GUIDE FOR THE USE OF THE IME 22 CONTAINER.