

Material Safety Data Sheet

Identity : (As Used on Label and List)

15 mm "Tru Flare" Signal Cartridges, signal cartridges with audible effect /Bearbangers/

UN Name: Cartridges, signal ; UN No.: 0312; Classification No. 1.4G

Date : July 19, 2003

Section I : Manufacturer's name and address

NITI -EAD

Address:

Rozova Dolina 34

6100 Kazanlak

BULGARIA

Tel : +359 431 648 84

Fax: +359 431 636 71

Section II - Hazardous ingredients /Identity information

Hazardous components - contains pyrotechnical composition - a mixture of oxidizer and fuel that will rapidly burn when ignited.

Chemical Name	OSHA /PEL/	OTHER LIMITS %
Potassium Perchlorate - CAS# 7778-74-7 Powerful Oxidizer, highly irritating to skin, eyes and mucous membranes. Violent reaction with light metals (Aluminum & Magnesium), charcoal, sulfur. Absorption can cause methemoglobinemia and kidney injury.	10mg/m3	Oral Rat: LD50: 2100mg/kg
Aluminium powder - CAS# 07429-90-5 DOT lists aluminium as flammable solid	N/A	Nuisance Dust
Magnesium Powder CAS# 7439-95-4 Though rated as an ingestible poison, most serious hazard is from burns.	15mg/m3	Oral Rat: LD50: 230mg/kg
Black Powder Explosive in loose state. Most hazards come from heat and explosion.	N/A	N/A

Section III – Physical/Chemical Characteristics

Physical state – solid

Appearance and Odour : All pyrotechnic composition is contained in aluminium hole, inserted into 18 mm plastic body, placed in cardboard casing.

Odourless.

Boiling point: N/A

Specific Gravity,(H₂O=1): N/A

Melting point: N/A

Evaporation Rate: N/A

Solubility in Water: N/A

Section IV – Fire and Explosion Hazard Data

Flash Point:

Pyrotechnical composition, auto-ignition point - approximately 180 C (350 F)

Extinguishing Media: Flood with water, if small number of spilled pieces is involved. Do not use suffocation methods, because composition provides its own oxygen.

Special Fire Fighting Procedures: Devices burn and explode quickly and contain their own oxygen. Clear the surrounding area and get away. Keep at least 10 m /30 feet/ distance from the burning area. Avoid fire extinguishing, if at least one shipping carton is involved.

Use NIOSH/MSHA approved, self-contained, breathing apparatus when involved in fire – fighting activities.

Unusual Fire and Explosion Hazards: Each item projects a solid flaming ball.

Contact with strong acids or bases may cause fire or explosion.

Section V - Reactivity Data

Stability: Stable under normal conditions of handling and storage.

Incompatibility (Materials to Avoid) : Exposure to water may cause deterioration. Devices should not get in any contact with strong acids and alkali bases.

Conditions to Avoid : Heat and Open Flame, Other Sources of Ignition. Continued exposure to moisture.

Exposure to temperatures even or exceeding 71 C (160 F) may cause weakening of the plastic flare body.

Hazardous Decomposition Products(Byproducts): Carbon monoxide, nitrogen, sulfur, magnesium, aluminium oxides, hydrogen monoxide.

Hazardous Polymerization : Will not occur.

Section VI – Health Hazard Data

Route(s) of entry : **Inhalation** **Skin** **Ingestion**

 Combustion gases, if ignited only No No

Health Hazards (Acute and Chronic): Exposure to finished product does not pose any health hazard. Thermal burn hazard from accidental ignition is more significant.

Carcinogenicity : N/A

Signs and Symptoms of Exposure : Prolonged exposure to smoke, generated during shooting of cartridges, may cause irritation of skin, eyes, mucous membranes and respiratory problems.

Medical Conditions Generally Aggravated by Exposure: Persons with pre-existing respiratory problems should avoid inhalation of smoke. Inhalation of combustion gases may result in an asthma syndrome.

Emergency and First Aid Procedures: Move to fresh air. Call MD if necessary.

Section VI – Precautions for Safe Handling and Storage

Steps to be Taken in Case Material is Released or Spilled: No smoking, open flames or sparking in vicinity of broken or spilled items. Sweep up carefully spilled items in approved DOT container. Do not seal. Do not use vacuum cleaner

Wear NIOSH/MSHA approved dust respirator in dusty conditions.

Wash all contaminated clothing.

Waste Disposal Method: Dispose by burning, in compliance with Federal and Local Regulations and Laws. Consult the proper authorities and agencies.

Precautions to Be Taken in Handling and Storing: Avoid near sources of high temperature, smoking or open flames. Avoid contact with strong acids and alkali bases. Keep shipping cartons cool and dry. Store in dry area, below 71 C (160 F).

Other Precautions: No chemical components are released during normal handling and storage. No health hazards are observed during normal handling.

Section VIII – Control Measures

Respiratory Protection: None required

Ventilation:

Local Exhaust: N/A

Mechanical (General): N/A

Special: N/A

Protective Gloves: Non Required

Eye Protection: Non Required

Other Protective Clothing and Equipment: N/A

Work/Hygienic Practices: No smoking in vicinity of items. Avoid exposure to open flame.

Section IX - Shipping Data

UN Name: Cartridges, signal; **UN Class:** 1.4G; **Compatibility group:** G;

Packing group: II; **Packing instructions:** 135; **Label Required:** 1.4G;