

1. IDENTIFICATION

Product Name	Actuating Cartridge, Power Device
Part Numbers	Large cup designs: 446041, 446046, 446047, 446086, 876299-3, 877597-1, 877744-03, 877744-2
Recommended use of the chemical and restrictions on use	
Identified uses	Fire Extinguisher Actuator
Restrictions on use	Not user serviceable. Do not attempt disassembling.
Company Identification	UTC Aerospace Systems 4200 Airport Drive, NW Wilson, NC 27896 (252) 237-7004
Customer Information Number	
Emergency Telephone Number	
3E Company	1-800-451-8346 Site Code: 33067
Issue Date	Jan 26, 2017
Supersedes Date	July 28, 2015 Rev. B

Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification
Explosives – Division 1.4

Label Elements
Hazard Symbols



Signal Word: Warning

Hazard Statements
Fire or projection hazard

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Ground/bond container and receiving equipment.
Do not subject to grinding/shock/friction.
Wear face protection.

Response

In case of fire: Evacuate area.
Explosion risk in case of fire.
Do NOT fight fire when fire reaches explosives.
Fight fire with normal precautions from a reasonable distance.

Storage

Store in accordance with local regulations.

2. HAZARD IDENTIFICATION

Disposal

Dispose of contents/container in accordance with local regulation.

Other Hazards

None identified.

0. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture contained in a sealed device.

Component	CAS Number	Concentration
Lead Azide	13424-46-9	40 - 50%
Hexanitrostilbene	20062-22-0	25 - 35%
Zirconium	7440-67-7	5 - 15%
Potassium Perchlorate	7778-74-7	1 - 10%
Fluoropolymer binder	9011-17-0	1 - 10%
Graphite	7782-42-5	0.1 - 1.0%

Note: Material content is less than 0.6 grams per unit in a hermetically sealed capsule.

0. FIRST- AID MEASURES

Description of necessary first-aid measures

Eyes

No specific treatment is required as exposure is unlikely under normal conditions of use.

Skin

No specific treatment is required as exposure is unlikely under normal conditions of use.

Ingestion

No specific treatment is required as exposure is unlikely under normal conditions of use.

Inhalation

No specific treatment is required as exposure is unlikely under normal conditions of use.

Most important symptoms/effects, acute and delayed

Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Notes to Physicians

Treat symptomatically.

1. FIRE - FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may explode in the heat of a fire.

Specific hazards arising from the chemical

Do not fight fires involving explosives. Product may explode. Evacuate the area and allow to burn or fight fire remotely. May release toxic fumes during a fire.

5. FIRE - FIGHTING MEASURES

Special Protective Actions for Fire-Fighters

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

If devices are spilled from their shipping or storage container and are damaged, cordon off the area until the situation has been properly assessed. Wear appropriate protective clothing to shield from accidental detonation.

Environmental Precautions

None

Methods and materials for containment and cleaning up

Recover the devices by hand and inspect in a shielded area before repacking. Dispose of damaged detonators as described in Section 13. Suspect or damaged articles should be labeled and consigned for correct destruction.

7. HANDLING AND STORAGE

Precautions for safe handling

Wear appropriate protective clothing. Devices should be stored in the packaging supplied until required for use. Follow industry guidelines for handling explosives. Uninstalled actuators should only be handled by personnel trained to handle explosive devices. Static grounding is recommended when handling unshunted devices.

Conditions for safe storage

Keep away from friction, impact, heat, flame, radio transmitters, electric storms and electric currents, including those caused by static electricity. Store in original packaging in dry area at 50 to 85 °F (10 to 30°C). Keep away from other explosives. Do not disassemble detonators as this may cause them to explode.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Lead Azide, as Pb

ACGIH: TLV 0.05 mg/m³ 8h TWA.

OSHA: PEL 0.05 mg/m³ 8h TWA.

Zirconium and Compounds as Zr

ACGIH: TLV 5 mg/m³ 8h TWA, 10 mg/m³ 10-min STEL

OSHA: PEL 5 mg/m³ 8h TWA.

Graphite

ACGIH: TLV 2 mg/m³ 8h TWA.

OSHA: PEL 15 mg/m³ 8h TWA, total dust
5 mg/m³ TWA, respirable fraction

Appropriate engineering controls

Work with device in a shielded area. Static grounding is recommended when handling unshunted

devices.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Individual protection measures**Respiratory Protection**

Not normally required.

Skin Protection

Cotton gloves.

Eye/Face Protection

Chemical goggles or safety glasses with side shields.

Body Protection

Cotton clothing and conductive-soled shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State Solid

Color N/A

Odor None

Odor Threshold Not applicable

pH Not applicable

Specific Gravity Not applicable

Boiling Range/Point (°C/F) Not applicable

Melting Point (°C/F) Not applicable

Flash Point (PMCC) (°C/F) Not applicable

Vapor Pressure Not applicable

Evaporation Rate (BuAc=1) Not applicable

Solubility in Water Not applicable

Vapor Density (Air = 1) Not applicable

VOC (g/l) Not applicable

VOC (%) Not applicable

Partition coefficient (n-octanol/water) Not applicable

Viscosity Not applicable

Auto-ignition Temperature 480°F

Decomposition Temperature No data available

Upper explosive limit Not applicable

Lower explosive limit Not applicable

Flammability (solid, gas) No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical Stability

Actuators are stable under normal conditions of operation.

Possibility of hazardous reactions

Hazardous polymerization will not occur.

10. STABILITY AND REACTIVITY

Conditions to Avoid

Exposure to low level electric current - impact - heat- static - shock - radio frequency (RF) energy

Incompatible Materials

Corrosive materials - copper tools - materials that can build up an electrostatic charge

Hazardous Decomposition Products

Oxides of carbon – lead compounds – zirconium compounds – potassium compounds

11. TOXICOLOGICAL INFORMATION

The chemicals contained in the actuator are hermetically sealed and pose no hazard under normal conditions of operation and storage. The information below is applicable only if the device ruptures before use.

Acute Toxicity

No relevant studies identified.

Specific Target Organ Toxicity (STOT) – single exposure

No relevant studies identified.

Specific Target Organ Toxicity (STOT) – repeat exposure

Lead Azide: May cause damage to organs through prolonged or repeated exposure. (route of exposure: inhalation)

Serious Eye damage/Irritation

No relevant studies identified.

Skin Corrosion/Irritation

No relevant studies identified.

Respiratory or Skin Sensitization

No relevant studies identified.

Carcinogenicity

Lead Azide: IARC 2A : Probably carcinogenic to humans, NTP: Anticipated Carcinogen

Germ Cell Mutagenicity

No relevant studies identified.

Reproductive Toxicity

Lead Azide: May damage fertility or the unborn child (route of exposure: oral)

Aspiration Hazard

Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Devices are sealed and present no ecological hazard to the environment.

12. ECOLOGICAL INFORMATION

Mobility in soil

No relevant studies identified.

Persistence/Degradability

No relevant studies identified.

Bioaccumulative Potential

No relevant studies identified.

Other adverse effects

No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

This material should be disposed of by a competent body familiar with explosive materials in accordance with all applicable local and national regulations. Ensure packaging is free of explosive material prior to disposal.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Cartridges, Power Device, (1.4S) UN0323, PGII
UN Proper Shipping Name	Cartridges, Power Device
UN Class	(1.4S)
UN Number	UN0323
UN Packaging Group	II
Classification for AIR Transportation (IATA)	Consult current IATA Regulations prior to shipping by air.
OR:	
DOT CFR 172.101 Data	Cartridges, Power Device, (1.4C) UN0276, PGII
UN Proper Shipping Name	Cartridges, Power Device
UN Class	(1.4C)
UN Number	UN0276
UN Packaging Group	II
Classification for AIR Transportation (IATA)	Consult current IATA Regulations prior to shipping by air.

Additional Information: This material may be shipped under DOT Competent Authority permission issued to either Kidde Aerospace or the U. S. Department of Defense. See Kidde Aerospace website for full information on Kidde packaging procedures.

15. REGULATORY INFORMATION

United States TSCA Inventory

All components of this product are in compliance with the inventory listing requirements of the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Canada DSL Inventory

All ingredients in this product have been verified for inclusion on the Domestic Substance List (DSL) or the Nondomestic Substance List.

15. REGULATORY INFORMATION

SARA Title III Sect. 311/312 Categorization

Pressure Hazard (Explosive)

SARA Title III Sect. 313

This product contains the following chemicals listed in Section 313 at or above de minimis concentrations: Lead compounds

California Proposition 65

This product contains materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

Legend

ACGIH: American Conference of Governmental Industrial Hygienists

CAS#: Chemical Abstracts Service Number

ECHA: European Chemicals Agency

EC50: Effect Concentration 50%

IARC: International Agency for Research on Cancer

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

N/A: Denotes no applicable information found or available

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TSCA: Toxic Substance Control Act

Revision Date: Jan 26, 2017

Replaces: July 28, 2015 Rev. B

Changes made: Updated to GHS Classification.

Information Source and References

This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.

The information and recommendations presented in this SDS are based on sources believed to be accurate. UTC Aerospace Systems assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the material for their particular purposes. In particular, we make **NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED**, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use or disposal of the material is in accordance with applicable Federal, State, and local laws and regulations.