



MATERIAL SAFETY DATA SHEET

UN0257, 1.4B

FUZES, DETONATING

CLASS C EXPLOSIVE

Reviewed: September 2, 2009

Section I - Product and Company Identification

Manufacturer's Name G&W Electric Company Systems Protection Division	Emergency Telephone Number CHEMTREC 1-800-424-9300, 1-703-527-3887 (US & Canada) (Overseas)
Address (Number, Street, City, State, Zip Code) 3500 West 127th Street, Blue Island, IL. 60406	
Identity (as used on label and list) These Material Safety Data sheets apply to the following Products: CLiP [®] - Current Limiting Protector PAF [®] - Power Assisted Fuse or CLiP [®] - Interrupter Simulator	

Section II - Hazardous Ingredients/Identity Information

Hazardous Component: Trade Name PRIMACORD[®] DETONATING CORD

Ingredient PENTAERYTHRITOL TETRANITRATE (PETN)	Percent N/A
Threshold Limit Value: None Established	Permissible Exposure Limit: None Established

Hazardous Component: Initiator

Ingredient PENTAERYTHRITOL TETRANITRATE (PETN)	Percent N/A
T.L.V. None Established	P.E.L. None Established
Ingredient Lead Azide/Lacquer	Percent N/A
T.L.V. .15mg/m ³ (as Pb)	P.E.L. .05 mg/m ³ (as Pb)
Ingredient Lead Azide/PETN	Percent N/A
T.L.V. .15mg/m ³ (as Pb)	P.E.L. .05 mg/m ³ (as Pb)

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Hazardous Component: ICI Aerospace or Network Electronics, MMS Switch

Ingredient Lead Azide/PETN	Percent N/A
T.L.V. .15mg/m ³ (as Pb)	P.E.L. .05 mg/m ³ (as Pb)

Section III - Hazard Identification

Route(s) of Entry:	Eye Contact:	N/A - Not Likely
	Skin Contact:	N/A - Not Likely
	Inhalation:	N/A - Not Likely
	Ingestion:	N/A - Not Likely
Health Hazards (Acute and Chronic):		N/A - None Expected Explosion is completely contained within a sealed container.
Carcinogenicity:	NTP	IARC Monographs
	N/A	N/A
		OSHA Regulated N/A
Signs and Symptoms of Exposure:		N/A - No Exposure Expected
Medical Conditions Generally Aggravated by Exposure: N/A		

Section IV – First Aid Measures

Emergency and First Aid Procedures:	Treat symptoms accordingly.
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Section V – Fire-Fighting Measures

Flash Point (Method Used): Store @ ambient, do not exceed 160°F		
Flammable Limits: N/A	LEL: N/A	UEL: N/A
Extinguishing Media: None		
Special Fire fighting Procedures: Do not fight fire. Isolate area and evacuate personnel to a safe distance from device.		
Unusual Fire and Explosion Hazards: May detonate if other outside influences are present (i.e. fire, static energy, impact shock etc.).		

Section VI – Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Review fire and explosion hazards and safety precautions before proceeding with clean up. Use appropriate personal protection equipment as specified in Section VIII during clean up. In case of accident or road spill, contact CHEMTREC at 800-424-9300 (US & Canada) or 703-527-3887 (others).
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Section VII – Handling and Storage

<p>Handling: Use appropriate personal protective equipment as specified in Section VIII. Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.</p>
<p>Storage: Store in unopened containers under cool and dry conditions. See further information in Section XVI.</p>
<p>Precautions to be Taken in Handling and Storing: Follow DOD Ammunition and Explosives Safety Standard DOD 5154.45 and 4145.26M. Firing leads and shorting wire must remain twisted. Shorting wires must be connected until firing leads have been attached to the Sensing and Firing Logic Terminals. Store in cool dry area. Avoid static electrical charges and stray electrical fields.</p> <p>*Do not attempt to open any of the sealed canister devices or attempt to disassemble the interrupter and/or fuse element. Do not use if outer casing of canister is damaged.</p> <p>*Note: The CLiP[®] simulator should remain sealed in the metal shipping container until ready for use. All precautions previously outlined apply to the simulator device. Also refer to attached supplement "Hazards and Safe Practices for CLiP[®], PAF[®] and Simulator Handling".</p>
<p>Other Precautions: These devices are regulated by 27CFR part 555 and 49CFR part 172. Theft must be reported to ATF at 800-424-9555.</p>

Section VIII – Exposure Controls / Personal Protection

Respiratory Protection (Specify Type): N/A			
Ventilation:	Local Exhaust: N/A	Special: N/A	
	Mechanical: N/A	Other: N/A	
Protective Gloves: Are not required.			
Eye Protection: Safety Glasses are recommended.			
Other Protective Clothing or Equipment: Hearing protection is recommended when installing or servicing the devices.			
Work/Hygienic Practices: N/A			

Section IX - Physical and Chemical Properties

Boiling Point:	N/A	Specific Gravity:	N/A
Vapor Pressure:	N/A	Percent Volatile:	N/A
Vapor Density:	N/A	Evaporation Rate:	N/A
Solubility in Water:	N/A	Melting Point:	N/A
<p>Appearance and Odor: Primacord[®] - Core of explosive wrapped in textile and/or plastic. The core will contain 25gr/foot or 5.3gm/meter of PETN.</p> <p>Detonator - Round cup detonator, with two wire twisted leads. Core contains 10mg/m³ dust of the listed explosive.</p> <p>MMS Switch - 0.140 Dia., 0.516 long cylinder, with four wire leads, two gold plated and two tin plated. The core will contain 5mg/m³ of the listed explosive.</p>			

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Section X – Stability and Reactivity

Stability: Stable
Conditions to Avoid: Flame, temperature > 160F or 71C, static energy, electrical energy, do not hammer or take apart.
Incompatibility (Materials to Avoid): Power sources, stray electrical currents, static electricity, heat, flame and impact.
Hazardous Decomposition or Byproducts: Trace amounts of lead fumes and oxides of nitrogen (below PEL expected).
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Rough handling, shock and heat. Units are designed to be detonated with an electrical pulse.

Section XI - Toxicological Information

No toxicological affects known.

Section XII – Ecological Information

Environmental Data: Takes up space in landfill, otherwise no known impacts.
Ecotoxicological Data: Not Available

Section XIII Disposal Considerations

Waste Disposal Method: Consult G&W Electric Company or an explosives manufacturer for recommended methods for destroying live explosive materials if the interrupter has not been expended or is ruptured exposing the components.
If the unit has been expended, it can be safely disposed of according to local laws governing fiberglass and/or epoxy materials. Units not expended or if condition of unit is in doubt, contact G&W Electric Company, at (708) 388-5010 for disposition of material. Refer to G&W Instructions GWI 529-15.

Section XIV – Transportation Information

DOT (Department of Transportation)	
Proper Shipping Name: Fuzes, Detonating, UN0257, 1.4B	
Technical Name: Refer to Section I for correct name.	Label: 1.4B and Cargo Aircraft Only.
Air (IATA/ICAO):	
Proper Shipping Name: Fuzes, Detonating, UN0257, 1.4B	Label: 1.4B and Cargo Aircraft Only
Vessel (IMO/IMDG):	
Proper Shipping Name: Fuzes, Detonating, UN0257, 1.4B	Label: 1.4B and Cargo Aircraft Only
U.S. Customs Harmonizing Number: 8535.10.0020	

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Section XV - Regulatory Information

Compliance with DOT 27 CFR parts 555 (Explosives Permitting and Storage) may apply.

For government contracts, compliance with DOD Ammunition and Explosives Safety Standards 4145.26M and 5154.45 is recommended.

Pennsylvania Title 25, Chapter 211 (Storage, Handling, and Use of Explosives) or customer's similar state regulations may apply.

Local Explosive Ordinances may also apply.

DOT 49 CFR Parts 171 and 172 do apply.

Dangerous Goods Regulations (IATA) do apply.

SARA (Superfund Amendments and Reauthorization Act) does not apply.

CERCLA ("Superfund" Comprehensive Environmental Response Compensation and Liability Act) does not apply.

RCRA (Resource Conservation and Recovery Act) does not apply.

WHMIS (Workplace Hazardous Materials Information System) does not apply.

TSCA (Toxic Substances Control Act) does not apply.

California Proposition 65 does not apply.

Section XVI – Other Information

Hazards and Safe Practices of CLiP[®], PAF[®] and Simulator Handling

These devices are designed to be initiated with an electrical pulse. The pulse causes a resistance wire to heat and ignite the explosive end of the detonator. The primer material explodes, followed by intermediate and base charge. This reaction then initiates the Primacord[®] causing a mild explosion completely contained within the sealed canister.

In normal use, with the exception of a loud noise, no known hazard exists.

When handling any of the devices, safety glasses are recommended. First insure that the firing leads and connecting shorting wire are twisted. Determine if the shorting wire has been cut or removed. If it has, replace the wire or connect the two ends of the firing leads and secure with an appropriate fastener effectively shorting them together. Avoid any type of flame, temperature above 160F/ 71C, static energy, electrical energy or impact shock while handling the device.

These devices are of a one "shot" nature and must be replaced after each operation. Thus one must be certain that the device containing the explosive components has indeed been expended. This can be generally determined by observing for the following indications:

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1. Cracking or flaking of the exterior surface paint.
2. Rattling of loose parts inside the tube when the interrupter is shaken or turned on end.
3. Operation of the local indication of operation. A small diameter pin will project from the end of the interrupter.
4. No continuity across the interrupter conductor.

If device is unexpended, contact G&W Electric Company for proper disposal instructions. If the device has been expended refer to GWI 529-15 for proper disposal. If in doubt as to the condition of the interrupter, contact the factory by phone at 708-388-5010, or FAX at 708-388-0755.

Reason for Issue: Added additional notes

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NOTICE: This Material Safety Data Sheet (MSDS) conforms to the requirements of OSHA 29 CFR Part 1910 and State of California CCR Title 8, and the recommendations in ANSI Z400.1. The information it contains is offered in good faith as accurate. We have reviewed the information contained in this MSDS which we received from sources outside our company. We believe that information to be correct, but we make no representations as to the accuracy or completeness thereof. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. We disclaim any liability for damage or injury which results from the use of the above information and nothing contained therein shall constitute a guarantee, warranty (including warranty of merchantability) or representation (including freedom from any patent liability) by us with respect to the information, the product described, or their use for any specific purpose, even if that purpose is known to us. In no event will we be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information.