



MATERIAL SAFETY DATA SHEET

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SECTION I - PRODUCT IDENTIFICATION

Trade Name(s): FireLine™

8/40 RDX NYLON LS	17/80 HMX NYLON LS
8/40 HMX NYLON LS	17/80 HNS LS
8/40 RDX NYLON RIBBON LS	17/80 HMX HI-TEMP LS
8/40 HMX NYLON RIBBON LS	17/80 RDX NYLON
10/50 HMX LOPRO NYLON LS	17/80 HMX NYLON XHV LS
13/60 HMX NYLON LS	17/80 RDX NYLON LS
13/60 HMX HI-TEMP LOW PROFILE LS	17/80 RDX NYLON XHV LS
13/60 HMX HI-TEMP LS	17/80 HMX EXPOSED
17/80 PETN Plastic	21/100 PETN Plastic

Product Class: Detonating Cord, Specialty (Oil Field)

Product Appearance & Odor: Flexible white or colored cord of woven textile with a protected explosive core of RDX (dyed pink), PETN, HMX (white crystalline powders) or HNS (yellow) and covered by a white or colored nylon, fluoropolymer or polyethylene plastic or textile jacket. No odor.

DOT Hazard Shipping Description: UN0065 Cord, detonating 1.1D II -or-
UN0289 II Cord, detonating 1.4D -or-
UN0349 Articles, explosive, n.o.s. (*explosive name*) 1.4S II
where the *explosive name* would be either RDX, HMX or HNS (spelled out)

NFPA Hazard Classification: Not Applicable (See Section IV - Special Fire Fighting Procedures)

SECTION II - HAZARDOUS INGREDIENTS

Ingredients	CAS#	EXPOSURE LIMITS	
		OSHA PEL	TLV-ACGIH ²
Pentaerythritol tetranitrate (PETN)	78-11-5	None ¹	None ²
Cyclotrimethylene trinitramine (RDX)	121-82-4	None ¹	0.5 mg/m ³ (skin)
Cyclotetramethylene tetranitramine (HMX)	2691-41-0	None ¹	None ²
2, Hexanitrostilbene	20062-22-0	None ¹	None ²
Ammonium Hydroxide	1336-21-6	None ¹	None ²
Tributyl phosphate	126-73-8	5 mg/m ³	0.2 mg/m ³

¹ Use limit for particulates not otherwise regulated (PNOR): Total dust, 15 mg/m³; respirable fraction, 5 mg/m³.

² Use limit for particulates not otherwise classified (PNOC): Inhalable particulate, 10 mg/m³; respirable particulate, 3 mg/m³.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in deminimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

* Core powder is predominantly one of the four explosive powders (PETN, RDX, HMX or HNS) with the possible trace amount of the other listed hazardous material. The approximate amount of explosive in a given grade of cord is expressed as that number of grams/grains of explosive per linear meter/foot of cord.

Example: 17/80 RDX NYLON contains about 17 grams/meter or 80 grains RDX per foot. (1 gram/meter = 4.7 grains/foot)

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate all personnel to a safe distant area and allow to burn or fight fire remotely. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If explosive powder is spilled from damaged detonating cord, remove all other explosives from the spill area. Wet down and clean spilled powder using a damp sponge or rag, avoid applying friction or pressure to the explosive, and place in a (Velostat) electrically conductive bag. Contamination of this material with sand, grit or dirt will render the material more sensitive to detonation. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State, and local spill reporting requirements.

Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Not required for normal handling.

Respiratory Protection: None normally required.

Protective Clothing: Work gloves and work clothing that reduce the possibility of skin abrasion and that would prevent contact with spilled explosive powder is suggested.

Eye Protection: Safety glasses or goggles are recommended.

Other Precautions Required: None.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store in cool, dry, well-ventilated location. Store in compliance with Federal, State and local regulations. Only properly qualified and authorized personnel should handle and use explosives. Keep away from heat, flame, ignition sources, impact, friction, electrostatic discharge and strong shock.

Precautions to be taken during use: Use accepted safe industry practices when using explosive materials.

Unintended detonation of explosives or explosive devices can cause serious injury or death. Avoid breathing the fumes or gases from detonation of explosives. Detonation in confined or unventilated areas may result in exposure to hazardous fumes or oxygen deficiency.

Other Precautions: It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.

SECTION X - SPECIAL INFORMATION

This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% By Weight</u>
None		

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