

Material Safety Data Sheet

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Infosafe No. LPWFK Issue Date : May 2007 ISSUED by DYNONOB

Product Name : **NONEL® LEAD LINE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name NONEL® LEAD LINE
Company Name Dyno Nobel Asia Pacific Limited
Address Level 20, 111 Pacific Highway North Sydney
NSW 2060
Emergency Tel. 1800 098 836
Telephone/Fax Tel: +61 2 9968 9000
Number Fax: +61 2 9964 0170
Recommended Use Signal transportation system for blast initiation.

2. HAZARDS IDENTIFICATION

Hazard Classification DANGEROUS GOODS.
NON-HAZARDOUS SUBSTANCE.
Dangerous goods classification according to the Australian Dangerous Goods Code.
Hazard classification according to the criteria of NOHSC.
Risk Phrase(s) R2 Risk of explosion by shock, friction, fire or other sources of ignition.
Safety Phrase(s) S34 Avoid shock and friction.
S35 This material and its container must be disposed of in a safe way.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Cyclotetramethylene Tetranitramine (HMX)	2691-41-0	0-<1 %
	Aluminium	7429-90-5	0-<0.1 %
	Other ingredients determined not to be hazardous		Balance to 100%

4. FIRST AID MEASURES

Inhalation If inner coating is inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If symptoms develop seek medical attention.
Ingestion If swallowed, do NOT induce vomiting. Wash out mouth with water. Seek medical attention.
Skin Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.
Eye If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
First Aid Facilities Eye wash station, safety shower and normal washroom facilities.
Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Use carbon dioxide, dry powder or water mist.

Hazards from

Combustion Products Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

Specific Hazards May burn vigorously with localized detonations and projection of fragments, with effects usually confined to the immediate vicinity of packages. Toxic smoke from combustion of the plastic material may be emitted. If product functions, high heat and pressure are released from the end of the tube if not covered or enclosed, typically by a metal device.

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Hazchem Code 1[Y]E

Precautions in connection with Fire For shock tube only, consider initial isolation of at least 15 meters (50 feet) in all directions. Fight fire with normal precautions and methods used for plastic fires from a reasonable distance.
IF DETONATORS OR OTHER EXPLOSIVES ARE PRESENT, DO NOT FIGHT FIRE.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Protect from all ignition sources. In case of fire evacuate area not less than 50 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, repackage undamaged devices in original packaging, accounting for every device. If the ends or tube wall have been opened such that powder may have been released from the tube, isolate the spill area. Contamination of the HMX/Aluminum powder with sand, grit or dirt will render the material more sensitive to detonation. Carefully wet down and clean "loose" powder spills using a damp sponge or rag, avoid applying friction or pressure to the explosive, and place in a (Velostat) electrically conductive bag. Follow applicable Federal, State, and local spill reporting requirements.

7. HANDLING AND STORAGE

Precautions for Safe Handling 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. Have appropriate fire extinguishers available in and near the storage area. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet.

Conditions for Safe Storage Store in a cool, dry, well-ventilated area, out of direct sunlight and moisture. Store in compliance with Federal, State, and local regulations. Keep away from heat, flame, ignition sources and strong shock. Only properly qualified and authorised personnel should handle and use Shock Tube.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Aluminium			10	Aluminium, metal dust	
Biological Limit Values	No Biological limit available.					
Engineering Controls	Use with good general ventilation.					
Respiratory Protection	Not normally required.					
Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.					
Hand Protection	Impervious gloves recommended. Final choice of appropriate gloves will vary according to individual. Reference should be made to AS/NZS 2161 Occupational protective gloves- Selection, use and maintenance.					

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Body Protection Suitable work wear should be worn to protect personal clothing. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Hollow plastic tubing (normally yellow) with dusty inner coating of HMX and aluminum.

Odour No detectable odor.

Melting Point HMX decomposes violently at melting pt., about 278°C

Boiling Point Not applicable

Solubility in Water Insoluble.

Specific Gravity Not applicable

pH Value Not applicable

Vapour Pressure Not applicable

Vapour Density (Air=1) Not applicable

Flash Point Not applicable

Auto-Ignition Temperature Not applicable

Flammable Limits - Lower Not applicable

Flammable Limits - Upper Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

Conditions to Avoid Heat, direct sunlight, open flames or other sources of ignition.

Incompatible Materials Incompatible with strong oxidizers and acids.

Hazardous Decomposition Products Hazardous carbon monoxide (CO), nitrogen oxide (NOX) gases and products of plastic decomposition produced.

Hazardous Polymerization Will not occur.

11. TOXICOLOGICAL INFORMATION

Inhalation Not a likely route of exposure. Inhalation of airborne dust may cause irritation to the mucous membrane and upper airways. Symptoms of exposure can include coughing, sneezing and breathing difficulties.

Ingestion Not a likely route of exposure. Ingestion of large amounts of the reactive powder (HMX) is poisonous and may cause cardiovascular collapse.

Skin Not a likely route of exposure. Dust may cause irritation.

Eye Not a likely route of exposure. Dust may be irritating.

Chronic Effects Prolonged or repeated skin contact may cause defatting leading to dermatitis.

12. ECOLOGICAL INFORMATION

Ecotoxicity No data available for this specific product.

Persistence / Degradability No data available for this specific product.

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Mobility No data available for this specific product.

Environ. Protection Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations Dispose of according to relevant local, state and federal government regulations.
NONEL tubing must first be fired before disposal in landfill in accordance with local regulations.
Destruction of explosives must be carried out by suitably licensed personnel. If necessary, the relevant statutory authorities must be notified.

14. TRANSPORT INFORMATION

Transport Information This material is classified as a Class 1 (Explosive) Dangerous Good according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 1 (Explosive) are incompatible in a placard load with any of the following:

- Class 2.1, Flammable Gas
- Class 2.2, Non-flammable Non-toxic Gas
- Class 2.3, Toxic Gas
- Class 3, Flammable Liquid
- Class 4.1, Flammable Solid
- Class 4.2, Spontaneously Combustible Substance
- Class 4.3, Dangerous When Wet Substance
- Class 5.1, Oxidising Agent
- Class 5.2, Organic Peroxide
- Class 6, Toxic and Infectious Substances
- Class 7, Radioactive Substance
- Class 8, Corrosive
- Class 9 - Miscellaneous Dangerous Goods
- Fire risk substances

U.N. Number 0349

Proper Shipping Name ARTICLES, EXPLOSIVE, N.O.S. - (Contains Cyclotetramethylene Tetranitramine (HMX))

DG Class 1.4S

Hazchem Code 1[Y]E

Packaging Method E103

Packing Group see 'Other information' (*)

EPG Number EXP2

IERG Number 03

Other Information (*) Unless specific provision to the contrary is made, the packagings used for explosives shall comply with at least the requirements for solids or liquids (as appropriate) of Packing Group II (medium danger).
Further information related to packaging, IBCS and Unit loads for explosives can be obtained from Australian Explosives Code.

15. REGULATORY INFORMATION

Poisons Schedule Not Scheduled

Hazard Category Explosive

16. OTHER INFORMATION

Date of preparation or last revision of MSDS MSDs created: May 2007.

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DISCLAIMER: The information and suggestions above concern explosive products which should only be dealt with by persons having appropriate technical skills, training and licences. The results depend to a large degree on the conditions under which the products are stored, transported and used.

While Dyno Nobel Asia Pacific makes every effort to ensure the details contained in the data sheet are as current and accurate as possible the conditions under which its products are used are not within Dyno Nobel Asia Pacific Limited's control. Each user is responsible for being aware of the details in the data sheet and the product applications in the specific context of the intended use. Buyers and users assume all risk, responsibility and liability arising from the use of this product and the information in this data sheet. Dyno Nobel Asia Pacific Limited is not responsible for damages of any nature resulting from the use of its products or reliance upon the information. Dyno Nobel Asia Pacific Limited makes no express or implied warranties other than those implied mandatory by Commonwealth, State or Territory legislation.

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