

# SAFETY DATA SHEET

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## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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### 1.1 Product identifier

**Product name** NONEL LEAD LINE  
**Synonyms** NONEL • NONEL LEADLINE

### 1.2 Uses and uses advised against

**Uses** DETONATOR • INITIATING EXPLOSIVE CHARGE

### 1.3 Details of the supplier of the product

**Supplier name** DYNO NOBEL ASIA PACIFIC LIMITED  
**Address** 282 Paringa Rd, Gibson Island, Murarrie, QLD, 4172, AUSTRALIA  
**Telephone** (07) 3026 3900  
**Fax** (07) 3026 3999  
**Website** <http://www.dynonobel.com>

### 1.4 Emergency telephone numbers

**Emergency** 1800 098 836

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## 2. HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### Physical Hazards

Explosives: Division 1.4

#### Health Hazards

Not classified as a Health Hazard

#### Environmental Hazards

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** WARNING

#### Pictograms



#### Hazard statements

H204 Fire or projection hazard.

#### Prevention statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P234 Keep only in original packaging.  
P240 Ground and bond container and receiving equipment.  
P250 Do not subject to grinding/shock/friction/rough handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

#### Response statements

P370 + P372 + P380 + In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.

## PRODUCT NAME NONEL LEAD LINE

### Storage statements

P401 Store in accordance with relevant site and storage provisions.

### Disposal statements

P503 Refer to manufacturer/supplier for information on disposal/recovery/recycling.

### 2.3 Other hazards

No information provided.

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## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

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### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CYCLOTETRAMETHYLENE TETRANITRAMINE (HMX)	2691-41-0	220-260-0	<1%
ALUMINIUM POWDER (PYROPHORIC)	7429-90-5	231-072-3	<0.1%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	Remainder

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## 4. FIRST AID MEASURES

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### 4.1 Description of first aid measures

<b>Eye</b>	Exposure is considered unlikely unless casing is damaged. Flush gently with running water. Seek medical attention if irritation develops.
<b>Inhalation</b>	Due to product form / nature of use, an inhalation hazard is not anticipated.
<b>Skin</b>	Exposure is considered unlikely unless casing is damaged. Gently flush affected areas with water. Seek medical attention if irritation develops.
<b>Ingestion</b>	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.
<b>First aid facilities</b>	Eye wash facilities and normal washroom facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

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## 5. FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

Water fog. DO NOT attempt to extinguish fire if other explosives are present. EVACUATE AREA.

### 5.2 Special hazards arising from the substance or mixture

EXPLOSIVE. Will explode under specific conditions. May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, etc when handling. CAUTION: Will explode if exposed to heat or with heavy impact.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Exposure to heat may result in detonation, however effects are expected to be limited to the package. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Do not attempt to fight fire if other explosives are present. Use waterfog to cool unexploded cartridges.

### 5.4 Hazchem code

1YE	
1	Coarse Water Spray.
Y	Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.
E	Evacuation of people in and around the immediate vicinity of the incident should be considered.

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## 6. ACCIDENTAL RELEASE MEASURES

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## PRODUCT NAME NONEL LEAD LINE

### 6.1 Personal precautions, protective equipment and emergency procedures

Clear area of all unprotected personnel. Contact emergency services where appropriate. CAUTION: Heating, impact or static charge may cause explosion.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

If cartridges are spilt or containers damaged, contain spillage, then collect and place in suitable containers for disposal. Eliminate all sources of ignition. Carefully wet down and clean loose powder spills using a damp sponge or rag. Avoid applying pressure or creating friction when cleaning up.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

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## 7. HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. Take precautionary measures against electrostatic discharges. Contamination of the HMX/Aluminium powder contained within the unit will render the material more sensitive to detonation.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a clean, dry magazine licensed for detonators. Detonators should not be stored with explosives. Store removed from incompatible materials and heat or ignition sources. Ensure the magazine is adequately placarded. Large storage areas should have appropriate ventilation and fire protection systems.

### 7.3 Specific end uses

No information provided.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Aluminium & compounds	SWA [Proposed]	--	1	--	--
Aluminium (metal dust)	SWA [AUS]	--	10	--	--
Aluminium (welding fumes) (as Al)	SWA [AUS]	--	5	--	--
Aluminium, alkyls (NOC+) (as Al)	SWA [AUS]	--	2	--	--
Aluminium, pyro powders (as Al)	SWA [AUS]	--	5	--	--
Aluminium, soluble salts (as Al)	SWA [AUS]	--	2	--	--

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

#### Engineering controls

Avoid inhalation. Use in well ventilated areas. When testing detonators, explosion proof mechanical extraction ventilation may be required in poorly ventilated areas. Maintain dust levels below the recommended exposure standard.

**PRODUCT NAME    NONEL LEAD LINE**

**PPE**

- Eye / Face**        Wear safety glasses.
- Hands**            Wear PVC or rubber gloves.
- Body**             Wear coveralls.
- Respiratory**     Not required under normal conditions of use.



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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	HOLLOW PLASTIC TUBING WITH DUSTY INNER COATING
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	EXPLOSIVE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT RELEVANT
<b>Melting point</b>	278°C (Approximately)
<b>Evaporation rate</b>	NOT RELEVANT
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Relative density</b>	NOT AVAILABLE
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT RELEVANT
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	EXPLOSIVE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

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**10. STABILITY AND REACTIVITY**

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**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

May detonate if heated strongly or exposed to severe shock. Due to enclosed form, reaction with other materials is unlikely, however avoid contact with acids (e.g. nitric acid), metal powders, combustibles and oxidisers.

**10.6 Hazardous decomposition products**

May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition.

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**11. TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects**

**PRODUCT NAME    NONEL LEAD LINE**

**Acute toxicity**            Based on available data, the classification criteria are not met. **WARNING:** May explode with shock, heat, friction or static charge. Serious damage may result from explosive fragments.

**Information available for the ingredients:**

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
CYCLOTETRAMETHYLENE TETRANITRAMINE (HMX)	50 mg/kg (rabbit)	630 mg/kg (rabbit)	--

**Skin**                            Not classified as a skin irritant. Adverse health effects via skin contact are not anticipated. However, serious damage may result from explosive fragments.

**Eye**                            Not classified as an eye irritant. Due to product form, exposure can only occur during detonation. Serious damage may result from explosive fragments.

**Sensitisation**                Not classified as causing skin or respiratory sensitisation.

**Mutagenicity**                Not classified as a mutagen.

**Carcinogenicity**            Not classified as a carcinogen.

**Reproductive**                Not classified as a reproductive toxin.

**STOT - single exposure**    Due to the product encapsulation, exposure to contents is not anticipated with normal use. Use safe work practices to avoid dust/fume inhalation after detonation. **WARNING:** May explode with shock, heat, friction or static charge.

**STOT - repeated exposure**    Not classified as causing organ damage from repeated exposure.

**Aspiration**                    Not classified as causing aspiration.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Waste disposal**            Waste must be disposed of in accordance with AS2187.2 as well as state regulatory and environmental legislation. Small quantities of damaged or deteriorated material may be destroyed by inclusion in a blast hole containing good explosives (by licensed personnel). Detonators should not be inserted into defective explosives. For large quantities, contact the manufacturer/supplier for additional information.

**Legislation**                    Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**



**PRODUCT NAME    NONEL LEAD LINE**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	0349	0349	0349
<b>14.2 Proper Shipping Name</b>	ARTICLES, EXPLOSIVE, N.O.S. (contains Cyclotetramethylene tetranitramine (HMX))	ARTICLES, EXPLOSIVE, N.O.S. (contains Cyclotetramethylene tetranitramine (HMX))	ARTICLES, EXPLOSIVE, N.O.S. (contains Cyclotetramethylene tetranitramine (HMX))
<b>14.3 Transport hazard class</b>	1.4S	1.4S	1.4S
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

Not a Marine Pollutant.

**14.6 Special precautions for user**

<b>Hazchem code</b>	1YE
<b>GTEPG</b>	EXP2
<b>EmS</b>	F-B, S-X

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
<b>Inventory listings</b>	<b>AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)</b> All components are listed on AIIC, or are exempt.

**16. OTHER INFORMATION**

**Additional information**                    **DISCLAIMER:** The information provided herein concern explosive products which should only be handled by persons having the appropriate technical expertise, training, and licence(s). The result is largely dependent upon the conditions of storage, transportation and use.

Whilst Dyno Nobel Asia Pacific make every effort to ensure the information contained within this SDS is as accurate and up-to-date as possible, the conditions under which its products are used are not within Dyno Nobel Asia Pacific's control. Each user has the responsibility to ensure awareness of the details contained within this SDS, the product applications, and the specific context of the intended usage. Buyers and users assume all risk, responsibility and liability arising from the use of this product and the information within this SDS. Dyno Nobel Asia Pacific is not responsible for damages of any nature resulting from the use of its products or reliance upon the information. Dyno Nobel Asia Pacific makes no express or implied warranties other than those implied mandatory by the Commonwealth, State or Territory Legislation.

**EXPLOSIVES & BLASTING AGENTS:** Refer to Local State and Federal legislation that specifically relates to the use of Explosives. Users of products described in this ChemAlert Report are advised to ensure familiarity and compliance with the appropriate legal requirements (e.g. Regulations) prior to the use of this product. Where any further information is required, users may contact their local authority in Explosives and Dangerous Goods.

**EXPLOSIONS:** Fires involving explosives or explosive mixtures may undergo further explosions and rapid propagation. Police and emergency personnel should be notified immediately. Evacuate individuals to a safe sheltered area at least 800 metres away. If possible remove vehicles and further heat and ignition sources from the area. Do not return to areas until at least one hour after fire and explosions have ceased.

**EXPLOSIONS:** For further information please refer to Australian Standard 1216, for classification of explosives and Local and Federal Explosive and Dangerous Goods legislation (Act and Regulations).

**PRODUCT NAME    NONEL LEAD LINE****PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmtglobal.com

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