

Material Safety Data Sheet

DYNO[®]
Dyno Nobel

NONEL[®] LEAD LINE

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Issued by: Dyno Nobel Asia Pacific Pty
Limited

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name

NONEL[®] LEAD LINE

Product Code

Company Name

Dyno Nobel Asia Pacific Pty Limited

Address

282 Paringa Road
Gibson Island
Murarrie, QLD 4172
Australia

Emergency Tel.

1800 098 836

Telephone/Fax Number

Tel: (07) 3026 3900

Fax: (07) 3026 3999

Recommended Use

Signal transportation system for blast initiation.

2. HAZARD IDENTIFICATION

Hazard Classification

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Explosives: Division 1.4

Risk Phrase(s)

Classified as hazardous according to criteria of NOHSC

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

Chemical Characterization

Article

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 inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

Unlikely route of exposure unless detonator is fired.

Ingestion

Not considered a potential route of exposure for intact product, when used as intended.

Unlikely route of exposure unless detonator is fired.

Skin

Not considered a potential route of exposure for intact product, when used as intended.

If the sealed unit is damaged and exposure occurs: Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

Unlikely route of exposure unless detonator is fired.

Eye

Not considered a potential route of exposure for intact product, when used as intended. If the sealed unit is damaged and exposure occurs: If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and persist seek medical attention.

Unlikely route of exposure unless detonator is fired.

First Aid Facilities

Eyewash and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use carbon dioxide, dry powder or water mist. Use only remote or fixed extinguishing systems (sprinklers).

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes including oxides of nitrogen, 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.

Extreme risk of explosion by shock, friction, fire or other sources of ignition. In case of fire: Evacuate area. DO NOT fight fire when fire reaches explosives.

Hazchem Code

1[Y]E

Decomposition Temperature

Not available

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.

Wear appropriate personal protective equipment and clothing to minimise exposure. Use spark free shovels. Avoid breathing fumes or gases from detonation of explosives. Only personnel trained in emergency response should respond.

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.

Only properly qualified and authorised personnel should handle and use explosives. Handle with great care. Use in designated areas with adequate ventilation. Avoid sources of shock, friction, heat and ignition. Avoid contact with oxidising materials.

Conditions for Safe Storage

Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, strong acids, foodstuffs, and clothing. Only properly qualified and authorised personnel should handle and use explosives. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Keep away from heat, sparks, open flames, hot surfaces. Take precautions against static electricity discharges. Use proper grounding procedures. Do not subject to friction. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to Australian Standard AS 2187 Explosives - Storage, transport and use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Aluminium:

TWA: 10 mg/m³

NOTE

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

Biological Limit Values

No biological limits allocated.

Engineering Controls

None required as use intended.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances. i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties	Description	Properties	Description
Form	Article	Appearance	Hollow plastic tubing (normally yellow) with dusty inner coating of HMX and aluminum.
Odour	No detectable odor	Decomposition Temperature	Not available
Melting Point	HMX decomposes violently at melting point, 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	Evaporation Rate	Not available
Odour Threshold	Not available	Colour	Not available
Octanol/Water Partition Coefficient	Not available	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

Keep away from heat, flame, ignition sources

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 Reactions

Reacts with incompatible materials

Hazardous Polymerization

Will not occur

11. TOXICOLOGICAL INFORMATION

Toxicology Information

No toxicity data available for this product.

Inhalation

Unlikely due to form of product. If the sealed unit is damaged and exposure occurs: Inhalation of dusts may irritate the respiratory system.

Ingestion

Ingestion unlikely due to form of product. If the sealed unit is damaged and exposure occurs: Ingestion of large amounts of the reactive powder (HMX) is poisonous and may cause cardiovascular collapse.

Skin

Unlikely due to form of product. If the sealed unit is damaged and exposure occurs: May be irritating to skin. The symptoms may include redness, itching and swelling.

Eye

Unlikely due to form of product. If the sealed unit is damaged and exposure occurs: Eye contact may cause mechanical irritation. May result in mild abrasion.

Reproductive Toxicity

Not considered to be toxic to reproduction.

Carcinogenicity

Not considered to be a carcinogenic hazard.

Skin Sensitisation

Not expected to be a skin sensitiser.

Other Information

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

No ecological data available for this material.

Persistence / Degradability

Not available

Mobility

Not available

Bioaccumulative Potential

Not available

Other Adverse Effects

Not available

Environmental Protection

Do not discharge this material into waterways, drains and sewers.

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

Road and Rail:

This material is classified as Dangerous Goods Class 1 Explosives.

Class 1 Dangerous Goods are incompatible in a placard load with any of the following:

- Division 2.1: Flammable gases
- Division 2.2: Non-flammable Non-toxic Gases
- Division 2.3: Toxic Gases
- Class 3: Flammable Liquids
- Division 4.1: Flammable Solids
- Division 4.2: Spontaneously Combustible Substances
- Division 4.3: Dangerous when wet Substances
- Division 5.1: Oxidising substances
- Division 5.2: Organic Peroxides
- Class 6: Toxic or Infectious Substances
- Class 7: Radioactive materials unless specifically exempted
- Class 8: Corrosive Substances
- Class 9: Miscellaneous substances
- Fire risk substances

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Division: 1.4S

EmS: F-B, S-X

UN-No: 0349

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

Special provisions:178, 274

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN-No: 0349

Division: 1.4S

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

Packaging Instructions (cargo): 101

Packaging Instructions (passenger): 101

Special provisions: A62, A802

U.N. Number

0349

Proper Shipping Name

ARTICLES, EXPLOSIVE, N.O.S.(Contains Cyclotetramethylene Tetranitramine (HMX))

DG Class

1.4S

Packing Group

see "Other information" (*)

Hazchem Code

1[Y]E

Special Precautions for User

Not available

EPG Number

EXP2

IERG Number

03

IMDG Marine pollutant

No

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

Regulatory information

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule

Not Scheduled

16. OTHER INFORMATION

Date of preparation or last revision of MSDS

MSDS reviewed: April 2016

Supersedes: May 2012

Contact Person/Point

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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.

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References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons.

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work Australia.

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

END OF SDS

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