

Material Safety Data Sheet

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

Product Name : **PRIMALINE ® 10 DETONATING CORD**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name PRIMALINE ® 10 DETONATING CORD
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 Detonating cord for initiating charges.
Other Names Name
Primacord
Primaline
Special 18 Detonating cord
Special 18AA Detonating cord
Special 25 Detonating cord
Special 25AA Detonating cord
Special 50 Detonating cord
Special 50AA Detonating cord
Special 18T Detonating cord
Special 25T Detonating cord
Special 50T Detonating cord
Special 25A Detonating cord

Product Code

2. HAZARDS IDENTIFICATION

Hazard Classification Not classified as Hazardous, according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).
Classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Risk Phrase(s) R3 Extreme 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	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Pentaeruthritol tetranitrate (PETN)	78-11-5	60-100 %
	Materials determined not to be hazardous		0-40 %

4. FIRST AID MEASURES

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If symptoms develop seek medical attention.

Ingestion DO NOT INDUCE VOMITING. Wash out mouth with water. If symptoms develop 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.

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First Aid Facilities Eye wash fountain, safety shower and normal washroom facilities.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media DO NOT FIGHT FIRES. Immediately isolate area and evacuate personnel to a safe distance.

Hazards from Combustion Products Poisonous gases are produced in fire, including nitrogen oxides and carbon monoxide.

Specific Hazards Extremely explosive. Severe explosion hazard when exposed to heat, shock, friction, fire or other sources of ignition. In case of all fires involving detonating cord, evacuate the area immediately and evacuate up wind of fire. DO NOT FIGHT FIRES.

Hazchem Code E

Precautions in connection with Fire DO NOT FIGHT EXPLOSIVES FIRES. Try to keep fire from reaching explosives. Isolate area and evacuate personnel to a safe place.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Shut off all possible ignition sources. Collect and seal in labelled packages for disposal. Handle with care. Surplus or defective explosives must not be placed in any waterway, buried, thrown away, discarded or placed with rubbish. Destruction of explosives must be carried out by suitably licensed personnel. If necessary, the relevant statutory authorities must be notified. The residue from the burning of explosives may be toxic to livestock and/or wildlife.

7. HANDLING AND STORAGE

Precautions for Safe Handling Keep away from friction, impact and heat. Do not consume food, drink, or smoke in areas where they may contaminate with these materials. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. Washing hands prior to eating, drinking or using toilet facilities. Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

Conditions for Safe Storage Store and transport in accordance with Local, State and Federal requirements. Store in a well-ventilated, clean, dry magazine suitably licensed for Class 1.1D Explosives. Protect ends of cords from contact with moisture or oil and protect from light. Handle with care. Do not store or consume food, drink or smoke in areas where they may become contaminated with this material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure standards have been established for this material, however, the TWA National Occupational Health And Safety Commission (NOHSC) exposure standards for dust not otherwise specified is 10 mg/m³.

Biological Limit Values No Biological limit available.

Engineering Controls Use with good general ventilation. If dusts are produced local exhaust ventilation should be used.

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Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. 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.
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	Wear gloves of impervious material(PVC or nitrile rubber gloves). Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection	Suitable protective clothing should be worn e.g. cotton overalls buttoned at neck and wrist. When this product is handled the use of plastic aprons and rubber boots is recommended.
Other Information	Biological Limit Values: No biological limit allocated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Flexible cord with a white powder core protected within outer coverings of various materials, finishes and colours.
Melting Point	140°C (PETN)
Solubility in Water	Negligible.
Specific Gravity	1.76
Flammability	Explosive material. Do not subject the material to impact, sparks or any form of heating.
Flammable Limits - Upper	Not applicable.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions, may explode when subjected to shock, friction, fire or other sources of ignition.
Conditions to Avoid	Keep away from heat, flame, ignition sources, strong shock and electrical impulse. Do not attempt to disassemble.
Incompatible Materials	Acids and alkalis, some organics such as amines and chlorides. Gritty impurities greatly increase the sensitivity to detonation.
Hazardous Decomposition Products	Detonation produces hazardous overpressures and fragments (if confined). Gases produced may contain carbon monoxide and nitrogen oxide.
Hazardous Reactions	Can explode or detonate under fire conditions.
Other Information	

11. TOXICOLOGICAL INFORMATION

Toxicology Information	LD50 (oral, mouse): 7g/kg
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The logo for DYNONOB, featuring the word "DYNO" in a large, bold, sans-serif font above the word "Dyno Nobel" in a smaller, regular sans-serif font.

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Inhalation	Not a likely route of exposure due to the packaging. Inhalation of product vapours or powders may cause irritation of the nose, throat and respiratory system.
Ingestion	Ingestion of substantial amounts of PETN core may result in headaches, dizziness, nausea and vomiting. PETN is a vasodilator and produces dilation of blood vessels.
Skin	May cause redness, itching and irritation.
Eye	Eye contact to PETN core may cause mechanical irritation. May result in mild abrasion.
Chronic Effects	PETN has been shown to be a vasodilator and overexposure can result in headaches, weakness and fall in blood pressure. Repeated or prolonged exposure may cause skin sensitisation.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No data available for this specific product.
Persistence / Degradability	No data available for this specific product.
Mobility	No data available for this specific product.
Environ. Protection	Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

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Product Name : **PRIMALINE ® 10 DETONATING CORD****Disposal Considerations**

Destruction of explosives must be carried out by suitably qualified personnel. If necessary, the relevant statutory authorities must be notified. In all circumstances, detonation is the preferred method of disposal. The residue from spills and the burning of explosives may be toxic to livestock and/or wildlife.

DETONATION:

The explosives to be destroyed must be placed in direct contact with fresh priming charge in a hole which is at least 0.6m deep and then adequately stemmed. No detonators are to be inserted into defective explosives. Personnel must be evacuated to a safe distance in accordance with relevant local regulations prior to initiation of the charge.

NOTE: Detonations in loose or stony ground may be expected to cause fly rock.

BURNING:

Burning may result in the detonation of explosives. Burning explosives produces toxic fumes eg. oxides of nitrogen and carbon.

Make a sawdust bed or trail adequate for the quantity of explosives to be burned approximately 400mm wide and 40mm deep, upon which the explosive will be laid. If sawdust is not available, newspaper may be used. Normal precautions should be taken against the spread of fire.

Individual trails should not be closer together than 600mm and should contain not more than 12kg of explosive.

Trails should be side-by-side, not in a line, and not more than four should be set up at one time.

Remove any explosive that is not to be burnt to a distance of at least 300m. Sufficient diesel oil (never petrol or other highly flammable liquid) should be used to thoroughly wet the sawdust (or paper). At least 4L per trail is recommended.

Light the trail from a long rolled paper 'wick' which should be placed downwind and in contact with the 1m of trail which is not covered with explosive.

The wind should blow so that the flame from the wick (and later from the burning explosives) will blow away from the unburned explosives as detonation is more likely to occur if the explosives are preheated by the flame.

If plastic igniter cord (slow) is available, its use for lighting is recommended instead of paper. One end should be coiled into or under the paper and the other end lit from a minimum distance of 7m from the trail. Retire to at least 300m or to a safe place.

Do not return to the site for at least 30 min after the burning has apparently finished.

If the fire goes out do not approach for at least 15 minutes after all traces of fire has gone. Do not add more diesel oil unless certain that the flame is completely extinguished.

14. TRANSPORT INFORMATION**DYNO**
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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 0065

Proper Shipping Name CORD, DETONATING, flexible

DG Class 1.1D

Hazchem Code E

Packaging Method E124

Packing Group see 'Other information' (*)

EPG Number EXP1

IERG Number 02

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

last revision of MSDS

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Product Name : **PRIMALINE ® 10 DETONATING CORD**

Contact Person/Point Dyno Nobel Asia Pacific Limited
Mt Thorley Technical Centre
Telephone: +61 2 6574 2500
Fax: +61 2 65 74 6849

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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