

# SAFETY DATA SHEET



## DETONATING CORD

Infosafe No.: CV4U6  
ISSUED Date: 17/05/2016  
Issued by: Dyno Nobel Asia Pacific Pty  
Limited

### 1. IDENTIFICATION

**GHS Product Identifier**

DETONATING CORD

**Product Code****Company Name**

Dyno Nobel Asia Pacific Pty Limited

**Address**

282 Paringa Road  
Gibson Island  
Murarrie, QLD 4172  
Australia

**Telephone/Fax Number**

Tel: (07) 3026 3900

Fax: (07) 3026 3999

**Emergency phone number**

1800 098 836

**Recommended use of the chemical and restrictions on use**

Detonating cord for initiating charges.

**Other Names**

Name	Product Code
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	

### 2. HAZARD IDENTIFICATION

**GHS classification of the substance/mixture**

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 1.1

**Signal Word (s)**

DANGER

**Hazard Statement (s)**

H200 Unstable explosives.

H201 Explosive; mass explosion hazard.

**Pictogram (s)**

Exploding bomb

**Precautionary statement – Prevention**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P230 Keep wetted with suitable material.

P240 Ground/bond container and receiving equipment.

P250 Do not subject to grinding/shock/friction.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement – Response**

P370+P380 In case of fire: Evacuate area.

P372 Explosion risk in case of fire.

P373 DO NOT fight fire when fire reaches explosives.

**Precautionary statement – Storage**

P401 Store according to manufacturer's instructions.

**Precautionary statement – Disposal**

P501 Dispose of contents/container to an approved waste disposal plant.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Ingredients**

Name	CAS	Proportion
Pentaerythritol tetranitrate (PETN)	78-11-5	60-100 %
Ingredients determined not to be hazardous.		Balance

### 4. FIRST-AID MEASURES

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**Inhalation**

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

**Ingestion**

Do not induce vomiting. Wash out mouth thoroughly with water. Seek medical attention.

**Skin**

Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

**Eye contact**

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and/or persist seek medical attention.

**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.

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## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

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

**Hazards from Combustion Products**

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

**Specific Hazards Arising From The Chemical**

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. Unstable explosives.

**Hazchem Code**

E

**Decomposition Temperature**

Not available

**Precautions in connection with Fire**

DO NOT fight fire when fire reaches explosives. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use only remote or fixed extinguishing systems (sprinklers).

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## 6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures**

Avoid breathing fumes or gases from detonation of explosives. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean approved container. Ensure that a complete account of product has been made and is verified. If loose explosive powder is spilled, such as from a broken detonator, only properly qualified and authorised personnel should be involved with handling and clean-up activities. Spilled explosive powder is extremely sensitive to initiation and may detonate. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

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## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

Only properly qualified and authorised personnel should handle and use explosives. Handle with great care. Unintended detonation of explosives or explosive devices can cause serious injury or death. Use in designated areas with adequate ventilation. Avoid sources of shock, friction, heat and ignition. Avoid contact with oxidising materials. Detonation in confined or unventilated areas may result in exposure to hazardous fumes or oxygen deficiency. Have emergency equipment (for spills, leaks, etc.) readily available. Label containers. Keep containers closed when not in use. Wear appropriate protective equipment to prevent inhalation, skin and eye contact. Maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities

**Conditions for safe storage, including any incompatibilities**

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, ignition sources, hot surfaces. Take precautions against static electricity discharges. Use proper grounding procedures. Do not subject materials to impact, friction and strong shock. Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous. 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

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### Occupational exposure limit values

No exposure standards have been established for this material, however, the TWA exposure standards for dust not otherwise specified is 10 mg/m<sup>3</sup>. As with all chemicals, exposure should be kept to the lowest possible levels.

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 week.

Source: Safe Work Australia.

### Biological Limit Values

No biological limits allocated.

### Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing solid/dust away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of particulates below the exposure standards, suitable respiratory protection must be worn.

### Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate 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 such as PVC or nitrile. 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	Flexible cord with a white powder core protected within outer coverings of various materials, finishes and colours.
Colour	White (powder) Various (cord)	Odour	Not available
Decomposition Temperature	Not available	Melting Point	140°C (Pentaerythritol tetranitrate)
Boiling Point	Not applicable	Solubility in Water	Negligible
Specific Gravity	1.76	pH	Not applicable
Vapour Pressure	Not applicable	Vapour Density (Air=1)	Not applicable
Evaporation Rate	Not applicable	Odour Threshold	Not available
Viscosity	Not applicable	Partition Coefficient: n-octanol/water	Not available
Flash Point	Not applicable	Flammability	Explosive material. Do not subject the material to impact, sparks or any form of heating.
Auto-Ignition Temperature	Not applicable	Flammable Limits - Lower	Not applicable
Flammable Limits - Upper	Not applicable		

## 10. STABILITY AND REACTIVITY

### Chemical Stability

May explode when subjected to shock, friction, fire or other sources of ignition.

### Reactivity and Stability

Unstable explosive.

### 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). Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

### Possibility of hazardous reactions

Can explode or detonate under fire conditions.

### Hazardous Polymerization

Not available

## 11. TOXICOLOGICAL INFORMATION

### Toxicology Information

No toxicity data available for this material.

### Ingestion

Ingestion of substantial amounts of Pentaerythritol tetranitrate core may result in headaches, dizziness, nausea and vomiting. Pentaerythritol tetranitrate is a vasodilator and produces dilation of blood vessels.

**Inhalation**

Not a likely route of exposure due to the packaging. Inhalation of dusts or vapours may irritate the respiratory system.

**Skin**

Skin contact may cause mechanical irritation resulting in redness and itching.

**Eye**

Eye contact may cause mechanical irritation. May result in mild abrasion.

**Respiratory sensitisation**

Not expected to be a respiratory sensitiser.

**Skin Sensitisation**

Not expected to be a skin sensitiser.

**Germ cell mutagenicity**

Not considered to be a mutagenic hazard.

**Carcinogenicity**

Not considered to be a carcinogenic hazard.

**Reproductive Toxicity**

Not considered to be toxic to reproduction.

**STOT-single exposure**

Not expected to cause toxicity to a specific target organ.

**STOT-repeated exposure**

Not expected to cause toxicity to a specific target organ.

**Aspiration Hazard**

Not expected to be an aspiration hazard.

**Other Information**

Pentaerythritol tetranitrate 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

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**Ecotoxicity**

No ecological data available for this material.

**Persistence and 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

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**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 explosives to be destroyed must be placed in direct contact with fresh priming charge in a hole 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

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### 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: 1.1D

EmS: F-B, S-X

UN-No: 0065

Proper Shipping Name: CORD, DETONATING, flexible

Special provisions: -

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: 0065

Division: 1.1D

Proper Shipping Name: CORD, DETONATING, flexible

Packaging Instructions (cargo): Forbidden

Packaging Instructions (passenger): Forbidden

Special provisions: A2

### U.N. Number

0065

**UN proper shipping name**  
CORD, DETONATING, flexible

**Transport hazard class(es)**  
1.1D

**Packing Group**  
see "Other information" (\*)

**Hazchem Code**  
E

**Special Precautions for User**  
Not available

**IERG Number**  
02

**IMDG Marine pollutant**  
No

**Transport in Bulk**  
Not available

**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

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**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

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**Date of preparation or last revision of SDS**

SDS Reviewed: May 2016  
Supersedes: May 2007, May 2012

**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.  
Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).  
Globally Harmonised System of classification and labelling of chemicals.

**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.

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