

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name	DETONATING CORD
Synonyms	PRIMACORD • PRIMACORD 4 DETONATING CORD • PRIMACORD DETONATING CORD • PRIMALINE • PRIMALINE 10 DETONATING CORD • PRIMCORD 5 DETONATING CORD • SPECIAL 18 DETONATING CORD • SPECIAL 18AA DETONATING CORD • SPECIAL 18T DETONATING CORD • SPECIAL 25 DETONATING CORD • SPECIAL 25A DETONATING CORD • SPECIAL 25AA DETONATING CORD • SPECIAL 25T DETONATING CORD • SPECIAL 50 DETONATING CORD • SPECIAL 50AA DETONATING CORD • SPECIAL 50T DETONATING CORD

1.2 Uses and uses advised against

Uses	DETONATING CORD
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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

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Explosives: Division 1.1

Health Hazards

Not classified as a Health Hazard

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word **DANGER**

Pictograms



Hazard statements

H201 Explosive; mass explosion hazard.

PRODUCT NAME **DETONATING CORD**

Prevention statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P230	Keep wetted.
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.

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.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
PENTAERYTHRITOL TETRANITRATE (PETN)	78-11-5	201-084-3	>60%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	Remainder

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
First aid facilities	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.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

DO NOT attempt to extinguish burning explosives. Evacuate area immediately. Notify trained emergency response personnel.

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. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Do not attempt to fight fire. Use waterfog to cool intact containers and nearby storage areas. May explode from heat, pressure, friction or shock.

5.4 Hazchem code

E Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

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

HANDLE WITH CARE: Spilled explosive powder is extremely sensitive to initiation and may detonate. If cords or containers are damaged, contain spillage, then collect and place in suitable containers for disposal. Eliminate all sources of ignition.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in clean, dry magazine licensed for Explosives. Separate magazines are required for cords and explosives. Store removed from incompatible substances, mechanical shock, heat or ignition sources. Ensure cords are adequately labelled and protected from physical damage. Large storage areas should have appropriate ventilation and fire protection systems.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

No exposure standards have been entered for this product.

Biological limits

Ingredient	Determinant	Sampling Time	BEI
PENTAERYTHRITOL TETRANITRATE (PETN)	Methemoglobin in blood	During or end of shift	1.5% of hemoglobin

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended.

PPE

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



9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT NAME **DETONATING CORD**

9.1 Information on basic physical and chemical properties

Appearance	CORD WITH WHITE POWDER CORE
Odour	ODOURLESS
Flammability	EXPLOSIVE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	140°C (PETN)
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Relative density	1.76
Solubility (water)	INSOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	EXPLOSIVE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Explosive material. Detonation may occur from impact, friction, or excessive heating.

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

Incompatible with oxidising agents (e.g. hypochlorites), combustible materials, acids (e.g. nitric acid), mechanical shock and heat or ignition sources.

10.6 Hazardous decomposition products

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Due to the product encapsulation, acute toxicity associated with the 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. Serious damage may result from explosive fragments.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
PENTAERYTHRITOL TETRANITRATE (PETN)	1660 mg/kg (rat)	--	--

Skin Not classified as a skin irritant. Due to product form, exposure can only occur during detonation. 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.

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Reproductive	Not classified as a reproductive toxin.
STOT - single exposure	Not classified as causing organ damage from single exposure. However, serious damage may result from explosive fragments.
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 Return to manufacturer/supplier or dispose of in accordance with State and Federal legislative requirements for Explosives. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

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



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	0065	0065	PROH
14.2 Proper Shipping Name	CORD, DETONATING, flexible	CORD, DETONATING, flexible	Air transport PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger and cargo aircraft.
14.3 Transport hazard class	1.1D	1.1D	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user

Hazchem code	E
GTEPG	EXP1
EmS	F-B, S-X

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule	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).
Classifications	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
Inventory listings	AUSTRALIA: AIC (Australian Inventory of Industrial Chemicals) All components are listed on AIC, 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).

EXPLOSIVES - BURNING SAFETY:

Note: Disposal in a blast with fresh explosives may be preferable to burning.

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.

PRODUCT NAME DETONATING CORD**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 ³	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.

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