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 18A 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 50A DETONATING CORD ● SPECIAL 50T DETONATING CORD

1.2 Uses and uses advised against
Uses: DETONATING CORD

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

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.
Prevention statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P230 Keep wetted.
P240 Ground/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.

Response statements
P370 + P380 In case of fire: Evacuate area.
P372 Explosion risk in case of fire.
P373 DO NOT fight fire when fire reaches explosives.

Storage statements
P401 Store in accordance with relevant site and storage provisions.

Disposal statements
P501 Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards
No information provided.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EC Number</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>PENTAERYTHRITOL TETRANITRATE (PETN)</td>
<td>78-11-5</td>
<td>201-084-3</td>
<td>&gt;60%</td>
</tr>
<tr>
<td>NON HAZARDOUS INGREDIENTS</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Remainder</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Determinant</th>
<th>Sampling Time</th>
<th>BEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PENTAERYTHRITOL TETRANITRATE</td>
<td>Methemoglobin in blood</td>
<td>During or end of</td>
<td>1.5% of hemoglobin</td>
</tr>
<tr>
<td>(PETN)</td>
<td></td>
<td>shift</td>
<td></td>
</tr>
</tbody>
</table>

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

9.1 Information on basic physical and chemical properties

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

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:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>PENTAERYTHRITOL TETRANITRATE (PETN)</td>
<td>1660 mg/kg (rat)</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

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.
PRODUCT NAME  DETONATING CORD

Mutagenicity  Not classified as a mutagen.
Carcinogenicity  Not classified as a carcinogen.
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

<table>
<thead>
<tr>
<th>LAND TRANSPORT (ADG)</th>
<th>SEA TRANSPORT (IMDG / IMO)</th>
<th>AIR TRANSPORT (IATA / ICAO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN Number</td>
<td>0065</td>
<td>0065</td>
</tr>
<tr>
<td>14.2 Proper Shipping Name</td>
<td>CORD, DETONATING, flexible</td>
<td>CORD, DETONATING, flexible</td>
</tr>
<tr>
<td>14.3 Transport hazard class</td>
<td>1.1D</td>
<td>1.1D</td>
</tr>
<tr>
<td>14.4 Packing Group</td>
<td>None allocated.</td>
<td>None allocated.</td>
</tr>
</tbody>
</table>

14.5 Environmental hazards
Not a Marine Pollutant.

14.6 Special precautions for user

<table>
<thead>
<tr>
<th>Hazchem code</th>
<th>GTEPG</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>EXP1</td>
</tr>
</tbody>
</table>
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 Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Inventory listings AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information 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.
DETONATING CORD

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>CAS #</td>
<td>Chemical Abstract Service number - used to uniquely identify chemical compounds</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>EC No.</td>
<td>EC No - European Community Number</td>
</tr>
<tr>
<td>EMS</td>
<td>Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>GTEPG</td>
<td>Group Text Emergency Procedure Guide</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration, 50% / Median Lethal Concentration</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose, 50% / Median Lethal Dose</td>
</tr>
<tr>
<td>mg/m³</td>
<td>Milligrams per Cubic Metre</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>pH</td>
<td>relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).</td>
</tr>
<tr>
<td>ppm</td>
<td>Parts Per Million</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-Term Exposure Limit</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>Specific target organ toxicity (repeated exposure)</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td>SUSMP</td>
<td>Standard for the Uniform Scheduling of Medicines and Poisons</td>
</tr>
<tr>
<td>SWA</td>
<td>Safe Work Australia</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
</tbody>
</table>

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

[ End of SDS ]