

SAFETY DATA SHEET



Revision date: 27-Jul-2022

Revision Number 7

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name CORDTEX DETONATING CORDS

Product Code(s) 000023868401

Other means of identification

Proper shipping name CORD, DETONATING

UN number 0065

Synonyms DETONATING CORDS, CORDTEX 3.6W, CORDTEX 5W, CORDTEX 5W U/G, CORDTEX 5P, CORDTEX 10P, CORDTEX 70P, CORDTEX PYROCORD, CORDTEX AP, CORDTEX 18, CORDTEX XTL NC, CORDTEX 10G, CORDTEX POWERSPLIT 10P

Recommended use of the chemical and restrictions on use

Recommended use Detonating cord for initiating charges. Restricted to professional users.

Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier

Orica New Zealand Limited
Street Address:
Brunnings Road
Carters Beach
Westport, 7892
New Zealand

Telephone Number: +64 3 788 8163

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

Emergency Telephone 0 800 734 607 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

SIGNAL WORD

Danger

EPA New Zealand HSNO approval code or group standard HSR100192

The 'Health and Safety at Work (Hazardous Substances) Regulations 2017', 'Hazardous substances that require tracking' are applicable to this material.

Explosives	Division 1.1 Category D
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Label elements



Hazard statements

H201 - Explosive; mass explosion hazard

Precautionary Statements - Prevention

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

Keep only in original packaging

Ground and bond container and receiving equipment

Do not subject to grinding/shock/friction

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

Precautionary Statements - Response

In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives

Precautionary Statements - Storage

Store in accordance with local regulations

Precautionary Statements - Disposal

Refer to manufacturer/supplier for information on disposal/recovery/recycling

Other hazards which do not result in classification

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	CAS No.	Weight-%
Pentaerythritol tetranitrate (PETN)	78-11-5	10-80%
Ingredients determined not to be hazardous	-	to 100%

Additional information

Continuous PETN explosive core enclosed in plastic tapes and fibres with an outer sleeve of textiles or plastic.

4. FIRST AID MEASURES

Description of first aid measures

General advice

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

Emergency telephone number

Poisons Information Center, New Zealand: 0800 764 766

Poisons Information Center, Australia: 13 11 26

Inhalation

Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.

Eye contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin contact	Wash skin with soap and water. Get medical attention if symptoms occur.
Ingestion	Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Get immediate medical advice/attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. Explosive material. Treat as for exposure to nitrates. May cause methemoglobinemia. PETN is a vasodilator. Maintain blood pressure by fluid administration. Shrapnel from detonation may cause burns, wounds and bruises.

5. FIRE FIGHTING MEASURES**Suitable Extinguishing Media**

Suitable Extinguishing Media Do not fight fires involving explosives.

Unsuitable extinguishing media**Specific hazards arising from the chemical**

Specific hazards arising from the chemical Explosive. May be ignited by heat, sparks or flames. May explode from friction, heat or contamination. Risk of explosion by shock or heating under confinement. On burning under confined or semi-confined conditions, some oxides of nitrogen and/or carbon will be present. Brown fumes indicate the presence of toxic oxides of nitrogen.

Hazardous combustion products Carbon oxides. Nitrogen oxides.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters In the case of a small fire, if actual explosive is not burning, carefully remove as much explosive as possible to a safe distance. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. However, if explosive is burning, evacuate area immediately and allow to burn. DO NOT fight fire.

A major fire may involve a risk of explosion. An adjacent detonation may also involve the risk of explosion. Mass explosion hazard.

Hazchem code E

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions Explosive material. Evacuate personnel to safe areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not subject to

	grinding/shock/friction. Use personal protective equipment as required. Avoid generation of dust. Do not breathe dust.
Other information	Refer to protective measures listed in Sections 7 and 8. In the case of a transport accident notify the Police, Regulatory Authorities and Orica Australia Pty Ltd (Telephone: 1800 033 111 -- 24 hour service) and/or Orica New Zealand Ltd (Telephone: 0800 734 607 -- 24 hour service) or Orica International (Telephone: +61 3 9663 2130 -- 24 hour service Australia).
For emergency responders	Explosive material. Remove all sources of ignition. Use personal protection recommended in Section 8.
<u>Environmental precautions</u>	
Environmental precautions	Keep out of waterways. Local authorities should be advised if significant spillages cannot be contained.
<u>Methods and material for containment and cleaning up</u>	
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Handle with care. Use non-sparking tools. Ground and bond containers when transferring material. Pick up and transfer to properly labelled containers. Avoid contamination with other substances. Keep in suitable, closed containers for disposal.
<u>Precautions to prevent secondary hazards</u>	
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle with care. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Do NOT subject the material to impact, friction between hard surfaces nor to any form of heating. Avoid contact with skin and eyes. Keep out of reach of children. Protect ends of cord from contact with moisture and oil. Avoid contamination with other substances.
General hygiene considerations	Contaminated work clothing should not be allowed out of the workplace. Do not get in eyes, on skin, or on clothing. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Store material in a well ventilated magazine suitably licensed for the explosives hazard classification. Do not store with other explosives products that have an incompatible explosives hazard classification (for example detonators must not be stored with blasting/high explosives). Store in accordance with the particular national regulations. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store away from other materials. Protect from physical damage. Keep/store only in original container. Protect from moisture.
Incompatible materials	Incompatible with combustible materials. Incompatible with oxidizing agents. Incompatible with reducing agents. Incompatible with strong acids and bases. Permanganates. Nitrites. Chlorates. Chlorides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority.

Biological occupational exposure limits

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES.



Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Protective gloves.
Skin and body protection	Overalls. Protective shoes or boots.
Respiratory protection	If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Environmental exposure controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Flexible cords with outer coverings of textiles and plastics. White powder core.
Color	Various
Odor	Odourless
Odor threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	141.3 C(for PETN)	None known
Boiling point / boiling range	No data available	None known

Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.77 (for PETN)	None known
Water solubility	Insoluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	> 150C (for PETN)	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Explosive; mass explosion hazard.	

Other information**10. STABILITY AND REACTIVITY**Reactivity

Reactivity Explosive.

Chemical stability

Stability Explosive. Risk of explosion by shock, friction, fire or other sources of ignition. Heating, particularly under confinement, may cause an explosion. May cause a mass explosion. Detonation may occur from impact, friction, or excessive heating.

Explosion data

Sensitivity to mechanical impact Yes.

Sensitivity to static discharge Yes.

Possibility of hazardous reactions

Hazardous polymerization Hazardous polymerization does not occur.

Possibility of hazardous reactions A major fire may involve a risk of explosion. An adjacent detonation may also involve the risk of explosion. Mass explosion hazard. Explosion may result due to shock, friction, fire or other sources of ignition. Detonation may occur from heavy impact or excessive heating. Explosion creates the potential for shrapnel.

Conditions to avoid

Conditions to avoid Heat. Keep away from open flames, hot surfaces and sources of ignition. Static discharge (electrostatic discharge). Do not subject to grinding/shock/friction. Avoid contact with other chemicals. Avoid contact with combustible substances. Protect from moisture. Avoid impact with solid surfaces or other boosters. Avoid contamination of the material.

Incompatible materials

Incompatible materials Incompatible with combustible materials. Incompatible with oxidizing agents. Incompatible with reducing agents. Incompatible with strong acids and bases. Permanganates. Nitrites.

Chlorates. Chlorides.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

Product Information

No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

Inhalation

May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Eye contact

May cause irritation.

Skin contact

Not an expected route of exposure. Repeated or prolonged exposure may cause irritation of eyes and skin. Shrapnel from detonation may cause burns, wounds and bruises.

Ingestion

Not an expected route of exposure. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause a lowering of blood pressure (hypotension). Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Symptoms

No information available.

Acute toxicity

Numerical measures of toxicity

No information available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Pentaerythritol tetranitrate (PETN)	= 1660 mg/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Not classified. Classification based on data available for ingredients.

Chemical name	New Zealand	IARC
Pentaerythritol tetranitrate (PETN) - 78-11-5		Group 2A

Reproductive toxicity

No information available.

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Chronic effects:	PETN is absorbed slowly through the lungs and gastrointestinal tract but not appreciably through the skin. Vasodilatory agent, therefore causes dilation of the blood vessels and a reduction in blood pressure. Exposure to high doses may cause methaemoglobinaemia. Negative in AMES test for mutagenicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity	Keep out of waterways.
Terrestrial ecotoxicity	There is no data for this product.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Pentaerythritol tetranitrate (PETN)	-	LC50: =926mg/L (96h, Pimephales promelas)	-

Persistence and degradability

Persistence and degradability	No information available.
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Bioaccumulative potential

Bioaccumulation	No information available.
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Mobility

Mobility in soil	No information available.
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Other adverse effects

Other adverse effects	No information available.
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13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste.
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Small quantities of damaged or deteriorated explosives may be destroyed by inclusion in a blast hole containing good explosive (s). For large quantities of damaged or deteriorated explosives notify Orica Australia Pty Ltd and/or Orica New Zealand Pty Ltd.

Contaminated packaging	For packages that have been in direct contact with hazardous chemicals, the person must ensure that the package is rendered incapable of containing any chemical. It must be disposed of in a manner that is consistent with the requirements for disposal of the
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chemical that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous chemical (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the chemical to be classified as hazardous (class 6, 8, or 9 chemical).

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

UN number	0065
Proper shipping name	CORD, DETONATING
Hazard class	1.1D
Hazchem code	E

IATA Forbidden

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

UN number	0065
UN proper shipping name	CORD, DETONATING
Transport hazard class(es)	1.1D
IMDG EMS Fire	F-B
IMDG EMS Spill	S-X

15. REGULATORY INFORMATION

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

New Zealand

National regulations See section 8 for national exposure control parameters

The 'Health and Safety at Work (Hazardous Substances) Regulations', 'Hazardous substances that require tracking' are applicable to this material.

EPA New Zealand HSNO approval code or group standard HSR100192

International Inventories

NZIoC	Contact supplier for inventory compliance status.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.

PICCS Contact supplier for inventory compliance status.
AIIC All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

Legend:**NZIoC** - New Zealand Inventory of Chemicals**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

- Australian Inventory of Industrial Chemicals

International Regulations**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**16. OTHER INFORMATION**

'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2022

Prepared By This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).**Issuing Date:** 27-Jul-2022**Reason(s) For Issue:** 5 Yearly Revised Primary SDS
Addition/Change of synonymous name(s)**Revision Note:**

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian Industrial Chemicals Introduction Scheme (AICIS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since The Supplier cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Supplier representative or The Supplier at the contact details on page 1.

The Supplier's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet