

MAXAM RIOCORD

MAXAM Australia

Chemwatch: 4875-36

Version No: 5.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 10/09/2015

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Initial Date: **Not Available**

S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	MAXAM RIOCORD
Synonyms	Not Available
Proper shipping name	CORD, DETONATING, flexible†
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Detonating cord for general blasting purposes.
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Details of the supplier of the safety data sheet

Registered company name	MAXAM Australia
Address	141 Boundary Road Oxley 4074 QLD Australia
Telephone	+61 7 3717 1818
Fax	+61 7 3717 1888
Website	http://www.maxam-corp.com.au
Email	licensing.au@maxam.net

Emergency telephone number



Association / Organisation	Not Available
Emergency telephone numbers	1800 833 111 (24hrs)
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS


	Min	Max
Flammability	1	
Toxicity	0	
Body Contact	0	
Reactivity	4	
Chronic	0	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	Not Applicable
GHS Classification [1]	Explosive Division 1.1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

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Label elements

GHS label elements	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H201	Explosive; mass explosion hazard
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Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P230	Keep wetted with phlegmatizer
P250	Do not subject to grinding/shock/sources of friction.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) 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(s) Storage

P401	Store according to local regulations for explosives
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Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
78-11-5	100	<u>pentaerythritol tetranitrate (densensitised)</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor.

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Ingestion	<p>Not considered a normal route of entry.</p> <ul style="list-style-type: none"> ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice.
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Indication of any immediate medical attention and special treatment needed

Symptoms of vasodilation and reflex tachycardia may present following organic nitrate overdose; most organic nitrates are extensively metabolised by hydrolysis to inorganic nitrites. Organic nitrates and nitrites are readily absorbed through the skin, lungs, mucosa and gastro-intestinal tract.

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

	<p>Fire-fighting fires involving explosives generally considered inappropriate. Evacuation procedures should be followed. Public Safety, outside the immediate are of the incident, is of paramount concern and the following actions should be considered:</p> <ul style="list-style-type: none"> ▶ People should be warned to stay indoors with all doors and windows closed, preferably in rooms upstairs and facing away from the incident. Ignition sources should be eliminated and any ventilation stopped.
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Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> ▶ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials. ▶ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.
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Advice for firefighters

Fire Fighting	DO NOT fight fires involving explosives.
Fire/Explosion Hazard	<p>WARNING: EXPLOSION HAZARD!</p> <ul style="list-style-type: none"> ▶ Combustible. ▶ Detonation may occur from heavy impact or excessive heating. ▶ Mixing with incompatible chemicals may cause expansion, decomposition or detonation. ▶ Heat affected containers remain hazardous.

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

Minor Spills	<p>Clean up all spills immediately. Avoid contact with skin and eyes. Use spark-free tools when handling Wear impervious gloves and safety glasses. Remove all ignition sources.</p>
Major Spills	<p>Clear area of personnel and move upwind Alert Fire Brigade and tell them location and nature of hazard.</p> <ul style="list-style-type: none"> ▶ May be violently or explosively reactive. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains and water course. <p>Collect recoverable packages and segregate from spilled material.</p>
	Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE**Precautions for safe handling**

Safe handling	<p>Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS.</p> <p>Wear protective clothing when risk of exposure occurs.</p> <ul style="list-style-type: none"> ▶ Avoid smoking, naked lights, heat or ignition sources <p>Must not be struck by metal implements.</p>
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Other information	<ul style="list-style-type: none"> ▶ Store cases in a well ventilated magazine licenced for the appropriate Class, Division and Compatibility Group. ▶ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.
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Conditions for safe storage, including any incompatibilities

Suitable container	E124 Reels within boxes, wood/fibreboard drums, fibre. The reels must be secured to prevent movement. Cord ends must be sealed and tied fast. Check that containers are clearly labelled. Packaging as recommended by manufacturer.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Dangerous goods of other classes. Avoid storage with incompatible substances. Avoid contamination of water, foodstuffs, feed or seed. Avoid storage with other chemicals.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA


Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
pentaerythritol tetranitrate (densensitised)	Pentaerythritol tetranitrate	0.44 mg/m ³	4.8 mg/m ³	330 mg/m ³

Ingredient	Original IDLH	Revised IDLH
pentaerythritol tetranitrate (densensitised)	Not Available	Not Available

Exposure controls

Appropriate engineering controls	<p>General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Provide adequate ventilation in warehouse or closed storage areas.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses. ▶ Chemical goggles ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
Skin protection	See Hand protection below
Hands/feet protection	Impervious gloves. Protective footwear.
Body protection	See Other protection below
Other protection	Overalls <ul style="list-style-type: none"> ▶ Impervious apron ▶ Barrier cream ▶ Eyewash unit. Equipment should be kept clean and in working-order.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the

computer-generated selection:

MAXAM RIOCORD Not Available

Material	CPI

Respiratory protection

Not Available

Not Applicable

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Braided or smooth plastic cord with white core. WARNING: SEVERE EXPLOSION HAZARD. Detonation may occur from heavy impact or excessive heating - particularly under confinement. Avoid all contact with other chemicals.		
Physical state	Manufactured	Relative density (Water = 1)	1.4 g/cc bulk density
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Explosive
pH (as supplied)	Not Applicable	Decomposition temperature	>150 (PETN)
Melting point / freezing point (°C)	141.3 (PETN)	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Product is considered stable under normal handling conditions. ▶ Stable under normal storage conditions. ▶ Hazardous polymerization will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Not normally a hazard due to physical form of product.
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	The decomposition vapours are harmful if inhaled in large volume.
Ingestion	Not normally a hazard due to physical form of product. The substance and/or its metabolites may bind to haemoglobin inhibiting normal uptake of oxygen. This condition, known as "methaemoglobinemia", is a form of oxygen starvation (anoxia). Symptoms include cyanosis (a bluish discolouration skin and mucous membranes) and breathing difficulties.
Skin Contact	Not normally a hazard due to physical form of product. The core material may be irritating to the skin on repeated or prolonged contact.
Eye	Not normally a hazard due to physical form of product. The core material may be irritating to the eyes.
Chronic	Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Short term exposure by all routes to PETN is considered to be practically non-harmful apart from explosive nature of product. Over exposure may lead to headaches, weakness and fall in blood pressure. Nitrates can have a smooth muscle relaxant effect which may result in hypotension. PETN has tested non-mutagenic.

MAXAM RIOCORD	TOXICITY	IRRITATION
	Not Available	Not Available
pentaerythritol tetranitrate (densensitised)	TOXICITY	IRRITATION
	Oral (rat) LD50: 1660 mg/kg ^[2]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	☉	Carcinogenicity	☉
Skin Irritation/Corrosion	☉	Reproductivity	☉
Serious Eye Damage/Irritation	☉	STOT - Single Exposure	☉
Respiratory or Skin sensitisation	☉	STOT - Repeated Exposure	☉
Mutagenicity	☉	Aspiration Hazard	☉

Legend: ✔ – Data required to make classification available
✘ – Data available but does not fill the criteria for classification
☉ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	Small quantities of damaged or deteriorated explosives may be destroyed by inclusion in a blast hole containing good explosives.
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SECTION 14 TRANSPORT INFORMATION

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Labels Required

	
Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG)

UN number	0065
Packing group	Not Applicable
UN proper shipping name	CORD, DETONATING, flexible†
Environmental hazard	No relevant data
Transport hazard class(es)	Class : 1.1D Subrisk : Not Applicable
Special precautions for user	Special provisions : Not Applicable Limited quantity : 0

Air transport (ICAO-IATA / DGR)

UN number	0065
Packing group	Not Applicable
UN proper shipping name	Cord, detonating, flexible
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class : 1.1D ICAO / IATA Subrisk : Not Applicable ERG Code : 1L
Special precautions for user	Special provisions : A2 Cargo Only Packing Instructions : Forbidden Cargo Only Maximum Qty / Pack : Forbidden Passenger and Cargo Packing Instructions : Forbidden Passenger and Cargo Maximum Qty / Pack : Forbidden Passenger and Cargo Limited Quantity Packing Instructions : Forbidden Passenger and Cargo Limited Maximum Qty / Pack : Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	0065
Packing group	Not Applicable
UN proper shipping name	CORD, DETONATING flexible
Environmental hazard	Not Applicable
Transport hazard class(es)	IMDG Class : 1.1D IMDG Subrisk : Not Applicable
Special precautions for user	EMS Number : F-B , S-X Special provisions : Not Applicable Limited Quantities : 0

SECTION 15 REGULATORY INFORMATION

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

PENTAERYTHRITOL TETRANITRATE (DENSENSITISED)(78-11-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

International Air Transport Association (IATA) Dangerous Goods Regulations

- Prohibited List Passenger and Cargo Aircraft

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (pentaerythritol tetranitrate (densensitised))
China - IECSC	N (pentaerythritol tetranitrate (densensitised))
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	N (pentaerythritol tetranitrate (densensitised))
USA - TSCA	Y
Legend:	<i>Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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