

MAXAM RIONEL LLE

MAXAM Australia

Chemwatch: 4868-70

Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 16/09/2015

Print Date: 09/10/2015

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 RIONEL LLE |
| Synonyms | Lead in Line |
| Proper shipping name | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting† |
| Other means of identification | Not Available |

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

| | |
|---------------------------------|---|
| Relevant identified uses | For general blasting purposes, mainly to initiate other explosives or for special applications. Use of this product by persons lacking adequate training, experience and supervision may result in injury or death. Obey all Commonwealth, State and Local Laws and Regulations. DANGER - If misused or disposed of improperly material may explode and cause death or injury. DO NOT HANDLE WHEN IN DOUBT. |
|---------------------------------|---|

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 |

MAXAM RIONEL LLE

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements

| | |
|---------------------------|---|
| GHS label elements |  |
|---------------------------|---|

| | |
|--------------------|---------------|
| SIGNAL WORD | DANGER |
|--------------------|---------------|

Hazard statement(s)

| | |
|-------------|----------------------------------|
| H201 | Explosive; mass explosion hazard |
|-------------|----------------------------------|

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 |
|-------------|---|

Precautionary statement(s) Disposal

| | |
|-------------|---|
| P501 | Dispose of contents/container in accordance with local regulations. |
|-------------|---|

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|------------|-----------|-------------------|
| 13424-46-9 | >60 | <u>lead azide</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. <p>In case of burns:</p> <ul style="list-style-type: none"> ▶ Quickly immerse affected area in cold running water for 10 to 15 minutes. ▶ Bandage lightly with a sterile dressing. Treat for shock if required. ▶ Lay patient down. Keep warm and rested. ▶ Transport to hospital, or doctor. |

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|-------------------|---|
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. |
| Ingestion | Not considered a normal route of entry. The form and packaging of explosive detonators prevents any significant contamination by the charge. |

Indication of any immediate medical attention and special treatment needed

Delayed pulmonary oedema may result following exposure to nitrous oxides formed during an explosion or on thermal decomposition of the explosive. Long term exposure to low airborne concentrations of lead from test firing of detonators of this type may result in altered haemoglobin breakdown, kidney damage, anaemia and central and peripheral nervous system damage.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

| | |
|--|--|
| | DO NOT fight fires involving explosives. |
|--|--|

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. |
|-----------------------------|--|

Advice for firefighters

| | |
|------------------------------|--|
| Fire Fighting | DO NOT fight fires involving explosives. Hazchem or Emergency Action Code: E |
| Fire/Explosion Hazard | Div 1.1, Compatibility Group A and B DANGER: SEVERE EXPLOSION HAZARD! <ul style="list-style-type: none"> ▶ Combustible. ▶ Detonation may occur from heavy impact or excessive heating. ▶ Dry material is sensitive to shock, friction and sparks. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. On burning under confined or semi-confined conditions toxic fumes of lead will be present. |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| | |
|---------------------|---|
| Minor Spills | WARNING: EXPLOSIVE. BLAST and/or PROJECTION and/or FIRE HAZARD <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid inhalation of the material and avoid contact with eyes and skin. ▶ Wear impervious gloves and safety glasses. |
| Major Spills | WARNING: EXPLOSIVE. <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. |

| | |
|--|--|
| | Personal Protective Equipment advice is contained in Section 8 of the SDS. |
|--|--|

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

| | |
|--------------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▶ Handle gently. Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Avoid all personal contact, including inhalation. Explosives should not be abandoned at any location for any reason. Do not handle during electrical storms. Always stay away from area of explosion or disposal sites, behind suitable barriers. |
| 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. Protect against lightning. |

Conditions for safe storage, including any incompatibilities

| | |
|---------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods. ▶ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division |
|---------------------------|--|

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Storage incompatibility

- ▶ 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.
 - ▶ Dangerous goods of other classes.
- Remove all ignition sources.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters****OCCUPATIONAL EXPOSURE LIMITS (OEL)****INGREDIENT DATA**


| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|------------|---------------------------------------|------------|---------------|---------------|---------------|
| Australia Exposure Standards | lead azide | Lead, inorganic dusts & fumes (as Pb) | 0.15 mg/m3 | Not Available | Not Available | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|------------------|---------------|---------------|---------------|---------------|
| MAXAM RIONEL LLE | Not Available | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|------------|---------------|--------------|
| lead azide | 700 mg/m3 | 100 mg/m3 |

Exposure controls

| | |
|---|---|
| Appropriate engineering controls | Product needs to be used by experienced and skilled personnel under the supervision of a qualified Shotfirer. |
| Personal protection |  |
| Eye and face protection | ▶ Generally not applicable. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ Cotton gloves ▶ Safety footwear |
| Body protection | See Other protection below |
| Other protection | ▶ Generally not applicable. |
| 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:

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| Material | CPI |
|----------|-----|
| | |

* 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.

Respiratory protection

Not Available

Not Applicable

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Continued...

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Information on basic physical and chemical properties

| | | | |
|---|---|--|----------------|
| Appearance | A precision heavy duty initiator composed of a flexible shock tube, a millisecond delay detonator (aluminium tube) and a detonating cord connector. | | |
| Physical state | Manufactured | Relative density (Water = 1) | Not Applicable |
| 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 | Not Applicable |
| Melting point / freezing point (°C) | Explosive | 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) | Not Applicable | 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 | Hazardous polymerisation will not occur. Detonation may occur from impact or heat. Avoid all contact with other chemicals. Conditions contributing to instability - heat (confinement), stacking (burning) Explodes at 160 degC or on impact, produces shrapnel. |
| 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 | <ul style="list-style-type: none"> ▶ Generally not applicable. Test firing in poorly ventilated areas can cause lead fume exposure. |
| Ingestion | <ul style="list-style-type: none"> ▶ Generally not applicable. Explosive ingredients are contained wholly within a small tube. |
| Skin Contact | <ul style="list-style-type: none"> ▶ Generally not applicable. Accidental detonation of explosive devices can cause lacerations, punctures and/or traumatic injury. Severity of the injuries is dependent on the number and proximity of the detonators. |
| Eye | <ul style="list-style-type: none"> ▶ Generally not applicable. Explosive ingredients are contained wholly within a small tube. |
| Chronic | Short term exposure by all routes is considered to be practically non-harmful apart from explosive nature of product. Over-exposure to lead fumes from test firing in poorly ventilated areas may result in anaemia, kidney and nervous system damage. |

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| | | |
|------------------|--|---------------|
| MAXAM RIONEL LLE | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| lead azide | TOXICITY | IRRITATION |
| | Not Available | 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 | |

| | |
|-------------------|---|
| LEAD AZIDE | WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Intraperitoneal (rat) LD ₅₀ >150 mg/kg Nil reported |
|-------------------|---|

| | | | |
|-----------------------------------|---|--------------------------|---|
| 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

DO NOT discharge into sewer or waterways.

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 | Large quantities shall be returned to MAXAM Australia Pty Ltd or be disposed of in conjunction with the relevant State Dangerous Goods Branch. Small quantities shall be consumed in a blast hole and exploded during blasting. Dispose of contents/container in accordance with local/regional/national/international regulations |
|-------------------------------------|--|

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|-------------------------|---|
| |  |
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

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Land transport (ADG)

| | |
|-------------------------------------|---|
| UN number | 0360 |
| Packing group | Not Applicable |
| UN proper shipping name | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting† |
| Environmental hazard | No relevant data |
| Transport hazard class(es) | Class : 1.1B Subrisk : Not Applicable |
| Special precautions for user | Special provisions : Not Applicable Limited quantity : 0 |

Air transport (ICAO-IATA / DGR)

| | |
|-------------------------------------|--|
| UN number | 0360 |
| Packing group | Not Applicable |
| UN proper shipping name | Detonator assemblies, non-electric for blasting |
| Environmental hazard | No relevant data |
| Transport hazard class(es) | ICAO/IATA Class : 1.1B ICAO / IATA Subrisk : Not Applicable ERG Code : 1L |
| Special precautions for user | Special provisions : Not Applicable 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 | 0360 |
| Packing group | Not Applicable |
| UN proper shipping name | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting |
| Environmental hazard | Not Applicable |
| Transport hazard class(es) | IMDG Class : 1.1B 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

LEAD AZIDE(13424-46-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|--|---|
| Australia Exposure Standards | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs |
| Australia Hazardous Substances Information System - Consolidated Lists | International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |
| Australia Inventory of Chemical Substances (AICS) | |

| National Inventory | Status |
|--------------------|--------|
|--------------------|--------|

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| | |
|----------------------------------|--|
| Australia - AICS | Y |
| Canada - DSL | Y |
| Canada - NDSL | N (lead azide) |
| China - IECSC | N (lead azide) |
| Europe - EINEC / ELINCS / NLP | Y |
| Japan - ENCS | Y |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | N (lead azide) |
| 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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