

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **ELECTRIC FUSE**

Recommended Use of the Chemical and Restrictions on Use Igniferous devices for explosive charges.

Supplier: Orica Australia Pty Ltd
ABN: 99 004 117 828
Street Address: 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9665 7111
Facsimile: +61 3 9665 7937
Emergency Telephone: **AUSTRALIA: 1 800 033 111 (ALL HOURS)**
INTERNATIONAL AUSTRALIA: +61 3 9663 2130 (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 Dangerous Goods by the criteria of the Australian Code for the Transport of Explosives by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Explosives - Division 1.4

SIGNAL WORD: WARNING



Hazard Statement(s):
H204 Fire or projection hazard.

Precautionary Statement(s):

Prevention:

P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking.
P240 Ground or bond container and receiving equipment.
P250 Do not subject to grinding, shock, friction, impact, electrical energy from extraneous source (lighting, static electricity, stray currents, galvanic electricity or electromagnetic radiation) or any form of heating.
P280 Wear protective gloves, protective clothing, eye and face protection.

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.

Storage:

P401 Store in accordance with AS2187.1 in a well ventilated magazine suitably licensed for Class 1.4S Explosives.

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**Disposal:**

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Product Description: Primary ignition sources, comprising a fusible resistance wire attached to conductive strips on an insulating support. The resistance wire is surrounded by an ignition compound (usually lead mononitroresorcinate), with lead wires soldered to the free end of the conductive strips. They are initiated by an electric current.

Components	CAS Number	Proportion	Hazard Codes
Lead mononitroresorcinate	51317-24-9	<0.3%	H302, H312, H332, H360, H373, H400, H410
Metal and plastic components and other non-hazardous components	-	>60%	-

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

In the case of inhalation of blasting fumes: Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact:

If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice.

Eye Contact:

If in eyes, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion:

Get to a doctor or hospital quickly.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Handle with care. Ignition may cause burns, wounds and bruises - treat symptomatically. Explosive material containing lead. Long term exposure to fumes from ignition of the material may result in lead poisoning.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Water spray (large quantities).

Hazchem or Emergency Action Code: 1YE

Specific hazards arising from the chemical:

Explosive material. Avoid all ignition sources. Avoid stray currents. Risk of explosion by shock, friction, fire or other sources of ignition. On burning will emit toxic fumes, including those of oxides of lead, metal oxides, oxides of carbon and oxides of nitrogen.

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Substance No: 000022014601

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Version: 5

Special protective equipment and precautions for fire-fighters:

Explosive material. Burns fiercely when ignited. Containers involved in a fire can constitute an explosion risk if confined. Severe initiation hazard when exposed to heat. In case of a small fire, if actual explosive is not involved, carefully remove as much explosive as possible to a safe distance. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion. However, if explosive is burning, evacuate area immediately. Do NOT fight fire. Prevent run off of fire water to avoid contaminating waterways.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Shut off all possible sources of ignition. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contact. If contamination of sewers or waterways has occurred advise local emergency services.

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 Limited (Telephone: 0800 734 607 -- 24 hour service) or Orica International: (Telephone: +61 3 9663 2130 -- 24 hour service Australia).

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Handle with care. Collect and seal in properly labelled containers. Avoid friction and impact. Avoid stray currents. Collect with non-metallic implements. Use a spark-free shovel.

7. HANDLING AND STORAGE

Precautions for safe handling:

Handle with care. Do NOT subject the material to impact, friction between hard surfaces nor to any form of heating. Avoid all ignition sources. Do not subject materials to electrical energy sources. Take precautionary measures against static discharges. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities:

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 away from sources of heat or ignition. Protect containers from physical damage. Store away from incompatible materials described in Section 10.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s) at or below 1%:

Lead, inorganic dusts & fumes (as Pb): 8hr TWA = 0.15 mg/m³

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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Appropriate engineering controls:

When test firing, ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):

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.



Wear overalls, safety glasses and impervious gloves. DO NOT eat, drink or smoke in lead contaminated areas. Always wash hands before smoking, eating, drinking or using the toilet. Wash hands and exposed skin thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Article , Solid
Colour:	-
Odour:	Odourless
Solubility:	Insoluble in water.
Specific Gravity:	N Av
Relative Vapour Density (air=1):	N Av
Vapour Pressure (20 °C):	N Av
Flash Point (°C):	N App
Flammability Limits (%):	N App
Autoignition Temperature (°C):	N App
% Volatile by Volume:	Nil
Melting Point/Range (°C):	N Av
Decomposition Point (°C):	N Av
pH:	N App
Viscosity:	N App
Evaporation Rate:	N App

10. STABILITY AND REACTIVITY

Reactivity: Explosive.

Chemical stability: Ignition may occur from impact, friction, heating or by electrical energy from an extraneous source (lightning, static electricity, stray currents, galvanic electricity or electromagnetic radiation).

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Possibility of hazardous reactions:	Explosive material. Ignition may result due to shock, pressure, friction, fire and other sources of ignition. Can burn fiercely. Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat. Avoid exposure to shock, friction, fire and other sources of ignition. Avoid build up of static electricity.
Incompatible materials:	Incompatible with oxidising agents. Incompatible with other chemicals . Incompatible with heat and hot surfaces. Incompatible with combustible materials.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Oxides of lead. Metal oxides. Lead fume.

11. TOXICOLOGICAL INFORMATION

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

Ingestion:	No information available.
Eye contact:	May cause physical irritation.
Skin contact:	Contact with skin may result in irritation. Shrapnel from detonation may cause burns and wounds to the skin and eyes.
Inhalation:	Fumes emitted on ignition of the fuse head may contain lead, and may be irritant to mucous membranes and respiratory tract.

Acute toxicity: No LD50 data available for the product.

Chronic effects:

Long term exposure to low concentrations of lead (by any route) may result in blood effects, anaemia, central and peripheral nervous system damage, gastrointestinal disturbances, renal injury, foetotoxicity, developmental deficiencies in neonates and children, and testicular damage including decreased sperm count.

Exposure to explosive charge material unlikely. The main hazard is the possibility of exposure to lead fumes when initiation occurs in a poorly ventilated area. The effects of lead poisoning may not be apparent immediately but significant absorption over a period of time may produce adverse effects as noted earlier due to accumulation of lead in the body. Lead compounds have been reported to cause reproductive effects in men and women. Testicular damage including decreased sperm count and abnormal sperm morphology has been reported. Lead compounds are also reported to cross the placenta and to induce foetotoxicity and teratogenic effects and developmental deficiencies in babies and children. Foetuses and children under 6 years are especially sensitive to neurological damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways. Contains lead compounds which can be harmful to the environment.
Persistence/degradability:	Lead is persistent in the environment.
Bioaccumulative potential:	Inorganic lead is considered to be bioaccumulating in the environment and may accumulate in aquatic and terrestrial plants and animals.
Aquatic toxicity:	May cause long lasting harmful effects to aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations. For small quantities: Place in a blast hole and explode during blasting. Large quantities should be returned to Orica Australia Pty Ltd or be disposed of in conjunction with the relevant State Dangerous Goods Branch. Do not move articles showing obvious signs of deterioration. Contact Orica Australia Pty Ltd or the relevant Regulatory Authorities.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Code for the Transport of Explosives by Road and Rail; DANGEROUS GOODS.



UN No: 0454
Transport Hazard Class: 1.4 S Explosive
Proper Shipping Name or Technical Name: IGNITERS
Hazchem or Emergency Action Code: 1YE

Marine Transport

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

UN No: 0454
Transport Hazard Class: 1.4 S Explosive
Proper Shipping Name or Technical Name: IGNITERS

IMDG EMS Fire: F-B
IMDG EMS Spill: S-X

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 0454
Transport Hazard Class: 1.4 S Explosive
Proper Shipping Name or Technical Name: IGNITERS

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Explosives - Division 1.4

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Hazard Statement(s):

H204 Fire or projection hazard.

Poisons Schedule (SUSMP): None allocated.

16. OTHER INFORMATION

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

Reason(s) for Issue:

5 Yearly Revised Primary SDS

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.