Material Safety Data Sheet

Based on available information, not classified as hazardous according to criteria of NOHSC.
Classified as Dangerous Goods by the criteria of the Australian Code for the Transport of Explosives by Road and Rail.

1. Identification of the substance/preparation and of the company/undertaking

Product Name: **ELECTRIC FUSE**

Supplier: Orica Australia Pty Ltd
ABN: 004 117 828
Street Address: 1 Nicholson Street
Melbourne 3000
Australia
Telephone Number: +61 3 9665 7111
Facsimile: +61 3 9665 7937

Emergency Telephone: **1 800 033 111 (ALL HOURS)**

2. Composition/information on ingredients

Product Description: Igniferous devices for explosive charges. Articles containing a fine bridgewire embedded in a small quantity of black powder, pyrotechnic substance or initiating explosive substance (usually lead mononitroresorcinate) and a short length of insulated lead wires (approx 2 mm). They are initiated by an electric current.

Components / CAS Number	Proportion	Risk Phrases
Non hazardous component(s) -	<1%	-
Metal and plastic components -	>60%	-
Lead mononitroresorcinate 51317-24-9	<1%	R61(1) R62(3) R20/22 R33

3. Hazards identification

Poisons Schedule: None allocated.

4. First-aid measures

Construction of the product normally prevents contact with explosive component, however, in the event of exposure:

Inhalation: 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: Immediately rinse mouth with water. If swallowed, give a glass of water to drink. Get to a doctor or hospital quickly.
Notes to physician: Treat symptomatically. Explosive material containing lead.

5. Fire-fighting measures

Specific Hazards: Explosive material. Avoid all ignition sources.
Fire-fighting advice: Explosive material. Severe initiation hazard when exposed to heat. In case of a small fire where the actual explosive is not involved, carefully remove explosive to a safe distance. If explosive is burning, fight fire from a protected location. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Decomposes on heating emitting toxic fumes.

Suitable Extinguishing Media: Water jets.

6. Accidental release measures

Shut off all possible sources of ignition. Collect and seal in properly labelled containers. In the case of a transport accident notify the Police, Explosives Inspector and Orica Australia Pty Ltd (Telephone: 1800 033 111 -- 24 hour service) and/or Orica New Zealand Pty Ltd (Telephone: 0800 734 607 -- 24 hour service).

7. Handling and storage

Handling advice: Do NOT subject the material to impact, friction between hard surfaces nor to any form of heating. Handle with care. Do not subject materials to electrical energy sources. Keep out of reach of children.

Storage advice: Store away from sources of heat or ignition. Store material in a well ventilated magazine suitably licensed for Class 1.4S Explosives.

8. Exposure controls/personal protection

Occupational Exposure Limits:
No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for constituent(s):

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

As published by the National Occupational Health and Safety Commission.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

These 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 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.

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

Personal Protective Equipment:
Orica Personal Protection Guide No.1,1998: NOT IN USE
No special personal protective equipment required. Containment of charge prevents exposure.

9. Physical and chemical properties

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

10. Stability and reactivity

Stability: Initiation can occur from electrical energy from an extraneous source (lightning,static electricity, stray currents, galvanic electricity or electromagnetic radiation), heat or friction.

11. Toxicological information

The construction of these articles should prevent any chemical contamination. 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 be an eye irritant. However, not a likely route of exposure.
Skin contact: Contact with contents may result in irritation.
Inhalation: Not expected to cause respiratory irritation (closed system). Inhalation of dust may result in respiratory irritation. Initiation can cause the presence of lead fume in air. Lead fume may be irritant to mucous membranes and respiratory tract.

Long Term 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.

Toxicological Data:
No LD50 data available for the product.

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.

12. Ecotoxicological information

Avoid contaminating waterways.

13. Disposal considerations

Small quantities of damaged or deteriorated material may be destroyed by open burning at a permitted site. Large quantities should be returned to Orica Australia Pty Ltd or be disposed of in conjunction with the relevant State Dangerous Goods Branch.

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.

UN No: 0454
Class-primary 1.4 S Explosive
Proper Shipping Name: IGNITERS

Hazchem Code: 1[Y]E

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN No: 0454

Class-primary: 1.4 S Explosive
Proper Shipping Name: IGNITERS

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

UN No: 0454
Class-primary: 1.4 S Explosive
Proper Shipping Name: IGNITERS

15. Regulatory information

Classification: Based on available information, not classified as hazardous according to criteria of NOHSC.
Poisons Schedule: None allocated.

16. Other information

This material safety data sheet has been prepared by SH&E Shared Services, Orica.

Reason(s) for Issue:
First Issue Primary MSDS

This MSDS 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 Orica Limited cannot anticipate or control the conditions under which the product may be handled, each user must, prior to handling, assess and control the risks arising from its use of the material.

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

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