Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **i-kon (TM)**

Other name(s): i-kon RX, i-kon SNS, i-kon TX, i-kon X-414, i-kon XT
Recommended Use: Electronic detonators.

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

2. HAZARDS IDENTIFICATION

Based on available information, not classified as hazardous according to criteria of Safe Work Australia; NON-HAZARDOUS SUBSTANCE.

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

Risk Phrases: Risk of explosion by shock, friction, fire or other sources of ignition.

Safety Phrases: Keep locked up and out of the reach of children. Keep away from sources of ignition - No Smoking. This material and its container must be disposed of in a safe way.

Poisons Schedule: None allocated.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Description: Metal alloy tube closed at one end with a moulded plastic plug and attached electric lead wires at the opposite end. The detonator of the i-kon SNS assembly is housed in a plastic connected block.

Components	CAS Number	Proportion	Risk Phrases
Metal and plastic components	-	>=90%	-
Trinitrotoluene (TNT)	118-96-7	<1%	R2, R23/24/25, R33, R51/53
Lead chromate	7758-97-6	<0.1%	R33,R40,R61(1),R62(3)
Pentaerythritol tetranitrate (PETN)	78-11-5	<1%	R3
Lead azide	13424-46-9	<0.1%	R3,R20/22,R33,R50/53, R61(1),R62(3),

4. FIRST AID MEASURES

Construction of the product normally prevents contact with explosive component, however, in the event of exposure: 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 irritation occurs seek medical advice. One component (TNT) enclosed in detonator can be absorbed throught the skin with resultant toxic effects. Seek immediate medical advice if exposure to detonator contents has occured.

Eye Contact:
Not applicable.

Ingestion:
Get to a doctor or hospital quickly.

Medical attention and special treatment:
Treat symptomatically. Detonator assemblies are explosive - handle with care. Explosive material containing lead. Long term exposure to detonation fumes may result in lead poisoning.

5. FIRE FIGHTING MEASURES

Hazards from combustion products:
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 , oxides of nitrogen and oxides of carbon .

Precautions for fire fighters and special protective equipment:
Explosive material. In case of small fire where the actual explosive is not involved, carefully remove explosive to a safe distance, otherwise evacuate area immediately and allow to burn. Severe explosive hazard when shocked or exposed to heat. Confinement of burning material may result in detonation.

Hazchem Code: E

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures:
Shut off all possible sources of ignition. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contact.

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).

Methods and materials for containment and clean up:
Collect and seal in properly labelled containers.

7. HANDLING AND STORAGE

Conditions for safe storage:
Store material in a well ventilated magazine suitably licensed for Class 1.1B Explosives. Do not store detonators in an explosives magazine. Protect containers from physical damage. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10.

Precautions for safe handling:
Detonators are explosive - handle with care. Do NOT subject the material to impact, friction between hard surfaces nor to any form of heating. Take precautionary measures against static discharges. Keep out of reach of children.

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) at or below 1%:

Lead, inorganic dusts & fumes (as Pb): 8hr TWA = 0.15 mg/m^3
Lead chromate (as Cr): 8hr TWA = 0.05 mg/m^3, Carcinogen Category 2
2,4,6-Trinitrotoluene (TNT): 8hr TWA = 0.5 mg/m^3, Sk

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.

`Sk' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Carcinogen Category 2 - probable human carcinogen. There is sufficient evidence to provide a strong presumption that human exposure may result in the development of cancer. This evidence is generally based on appropriate long term animal studies, limited epidemiological evidance or other relevant information.

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.

Biological Limit Values Inorganic lead.
Biological Exposure Index (2,4,6-Trinitrotoluene, TNT)(methemoglobin inducers): Methemoglobin in blood = 1.5% of hemoglobin, During or end of shift.

Engineering controls:
When test firing, ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Natural ventilation should be adequate under normal use conditions.

Personal Protective Equipment:
The selection of PPE is dependant 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.

Orica Personal Protection Guide No. 1, 1998: A - OVERALLS, SAFETY SHOES.

No special personal protective equipment required. Containment of charge within metal tube prevents exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Article , Solid
Colour:	Metallic
Odour:	Odourless
Solubility:	Insoluble in water.
Specific Gravity:	Not applicable
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable

10. STABILITY AND REACTIVITY

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

Conditions to avoid: Avoid exposure to heat. Avoid exposure to shock, friction, fire and other sources of ignition. Avoid build up of static electricity. Store away from explosive products.

Incompatible materials: Incompatible with strong oxidising agents.

Hazardous decomposition products: Oxides of carbon. Oxides of nitrogen. Oxides of lead. Lead fume.

Hazardous reactions: Explosive material. Explosion may result due to shock, friction, fire and other sources of ignition. Explosion creates the potential for shrapnel. Hazardous polymerisation will not occur.

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 cause physical irritation.

Skin contact: Not expected to be a skin irritant. Contact with metal tube contents may result in irritation. One component (TNT), enclosed within metal tube can be absorbed through the skin.

Inhalation: Not a likely route of exposure due to the physical form of the product. Test firing of detonators in poorly ventilated areas can cause presence of lead fume in air. Lead fumes 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 test firing detonators in a poorly ventilated area. The effects of lead poisoning may not be appartent 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. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

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Disposal methods:
For small quantities: Place in a blast hole and explode during blasting. Large quantities should be returned to Orica Australia Pty Ltd/Orica New Zealand Pty Ltd or be disposed of in conjunction with the Land Waste Management Authority. Do not move detonators showing obvious signs of deterioration. Contact Orica Australia Pty Ltd or 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; DANGEROUS GOODS.

UN No:	0030
Class-primary	1.1 B Explosive
Proper Shipping Name:	DETONATORS, ELECTRIC
Hazchem Code:	E

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:	0030
Class-primary:	1.1 B Explosive
Proper Shipping Name:	DETONATORS, ELECTRIC

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. TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger aircraft and cargo aircraft.

15. REGULATORY INFORMATION

Classification:	Based on available information, not classified as hazardous according to criteria of Safe Work Australia; NON-HAZARDOUS SUBSTANCE.
Risk Phrase(s):	R2: Risk of explosion by shock, friction, fire or other sources of ignition.
Safety Phrase(s):	S1/2: Keep locked up and out of the reach of children. S16: Keep away from sources of ignition - No smoking. S35: This material and its container must be disposed of in a safe way.
Poisons Schedule:	None allocated.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

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

Reason(s) for Issue:
Revised Primary SDS
Product name change

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 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.