1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	**SUPREME PLAIN DETONATORS (1.1B PACKAGING)**
Recommended use of the chemical and restrictions on use:	**Initiating System for Explosives Charge**
Supplier:	Economic Explosives Ltd (EEL) 11, Zade Layout, Bharat Nagar Nagpur - 440033 Maharashtra India Telephone Number: +712 2561000 +712 2560202

2. HAZARDS IDENTIFICATION

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

Classification of the substance or mixture:
Explosives - Division 1.1

SIGNAL WORD: DANGER

Hazard Statement(s):
H201 Explosive; mass explosion hazard.

Precautionary Statement(s):

Prevention:
P210 Keep away from heat / sparks / open flames / hot surfaces. No smoking.
P230 Keep wetted with water.
P240 Ground / 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 protection / 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 Hazardous Substances (Class 1 to 5) Control Regulations 2001.

Disposal:
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Product Name: SUPREME PLAIN DETONATOR (1.1B PACKAGING)
Substance No:

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION/INFORMATION ON INGREDIENTS
Product Description: The detonator caps consist of an aluminium tube filled with explosives charge. The detonator has a Lead Azide, Aluminium powder and PETN charge.

Components	CAS Number	Proportion	Hazard Code
Lead Azide	13424-46-9	<1%	H200, H360, H332, H302, H373, H400, H410
Lead Styphnate	15245-44-9	<1%	R61(1), R62(3), R20/22, R33
Aluminium Powder (Stabilized)	7429-90-5	<1%	H261, H228
Pentaerythritol tetranitrate (PETN)	78-11-5	<1%	H201, H205

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 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. Detonator assemblies are explosive - handle with care. Explosive material containing lead. Long term exposure to detonation fumes may result in lead poisoning. Shrapnel from detonation may cause burns, wounds and bruises - treat symptomatically.

5. **FIRE FIGHTING MEASURES**

Suitable Extinguishing Media:
Do not fight fires involving explosives.

Hazchem or Emergency Action Code: E
Specific hazards arising from the substance or mixture:
Explosive material. Avoid all ignition sources. Risk of explosion by shock, friction, fire or other sources of ignition. On burning will emit toxic fumes, including those of oxides of carbon , oxides of nitrogen and lead .

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

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.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up: Collect and seal in properly labeled containers.

In the case of a transport accident notify the Police, Explosives Inspector and EEL

7. **HANDLING AND STORAGE**

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.

Conditions for safe storage, including any incompatibilities:
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.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control Parameters: No value assigned for this specific material by NOHSC. However, Workplace Exposure Standard(s) for constituent(s):

Lead, inorganic dusts & fumes (as Pb): 8hr TWA = 0.15 mg/m3
Aluminium (metal dust): 8hr TWA = 10 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.

Biological Exposure Indices: Inorganic lead.

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

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.
EEL Personal Protection Guide:- OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES.

Containment of charge prevents exposure. Wear protective clothes, gloves and eye protection when handling. Wash hands and exposed skin before meals and after work. DO NOT eat, drink or smoke in lead contaminated areas.

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**

Chemical stability: Detonation may occur from impact, friction, or excessive heating.

Possibility of 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.

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 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. Oxides of aluminium. Lead fume.

Precaution for use: Not to be used in underground coal mines.

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. Shrapnel from detonation may cause burns and wounds to the skin and eyes.

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.

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.

12. **ECOLOGICAL INFORMATION**

Ecotoxicity	Avoid contaminating waterways.
Persistence/degradability:	Expected to be persistent in the environment. May cause bioaccumulation.

13. **DISPOSAL CONSIDERATIONS**

Disposal methods:
Refer to Waste Management Authority. Dispose of contents/container in accordance with local/regional/national/international regulations. For small quantities: Cut off shock tube and place in a blast hole and explode during blasting. Large quantities should be returned to EEL 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 Code for the Transport of Explosives by Road and Rail;
DANGEROUS GOODS.

UN No.	0029
Transport Hazard	1.1B Explosive

Shipping Name or Technical Name: DETONATORS, NON ELECTRIC for Blasting
Hazchem or Emergency Action 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:	0029
Transport Hazard Class:	1.1 B Explosive
Proper Shipping Name or Technical Name:	DETONATORS, NON ELECTRIC for Blasting
IMDG EMS Fire:	F-B
IMDG EMS Spill:	S-X

Air Transport
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:
This material is hazardous according to NOHSC; HAZARDOUS SUBSTANCE.

Classification of the substance or mixture:
Explosives - Division 1.1

Hazard Statement(s):
H201 Explosive; mass explosion hazard.

Poisons Schedule (SUSMP): None allocated.

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

16. **OTHER INFORMATION**
This safety data sheet has been prepared by EEL.

Reason(s) for Issue:
5 Yearly Revised Primary SDS
Alignment to GHS requirements
Alignment to HSNO requirements

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 EEL 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 EEL representative or EEL at the contact details on page 1.

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