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MATERIAL SAFETY DATA SHEET

SAFETY FUSE

	Compiled by	Approved by
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Designation	Executive Director	Managing Director
Date	05/09/2015	05/09/2015

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1. PRODUCT NOMENCLATURE/IDENTIFICATION

Commercial Names: Safety Fuse OR Fuse, Safety
Manufactured by: Commercial Explosives (India) Private Limited

Factory
17 km stone
Village - Gondhkeri, Taluka - Kalmeshwar
District - Nagpur, 441501 (INDIA)
Tel.: 91- 712 – 2249121
Fax.: 91 - 712 – 2247480

Area Distributor:
(If any)

Local Importer:
(If any)

Emergency No: National poison information center / National helpdesk : countrywise telephone number

2. COMPOSITION AND INFORMATION ON INGREDIENTS

Material	CAS No.	Hazard Symbols	R phrases	S phrases
Fuse Powder		E	3	
CAS Registry Number:		Does not apply		
EINECS Number:		Does not apply		
Risk Phrases:		R2	Risk of ignition by shock, friction, fire or other sources of ignition.	
Safety Phrases:		S1/2	Keep out of reach of children	
		S15	Keep away from heat	
		S16	Keep away from sources of ignition - NO SMOKING	
		S17	Keep away from combustible materials	
		S20/21	When using do not eat, drink or smoke	
		S60	This material and its container must be disposed of as hazardous waste	

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3. HAZARDS IDENTIFICATION

Danger:	Class 1.4 product
Flammable:	May burn rapidly
Toxic:	Low toxicity to plant and animal life
Irritant:	Fuse powder is irritant to sensitive skin and lesions

4. FIRST AID MEASURES

Ingestion:	Not Applicable
Eye contact:	Rinse out eyes with opened eyelid for several minutes under running water. If any discomfort continues consult a doctor.
Skin contact:	All skin wounds however minor should be covered with appropriate medical dressing. Any skin contamination should be removed by washing with water.
Inhalation:	If exposed to fumes from burning in a poorly ventilated area, remove the victim from exposure and loosen clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.
Notes to physician:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Fire fighting advice:	Fire represents the principal risk to safety due to the inherent flammability of the blackpowder present in the product. Do not attempt to fight a fire where the product or packaging is burning. Evacuate the area and call emergency services. Any packages in the vicinity of a fire should, if possible to do so safely, be doused with water to cool the product and prevent combustion.
Extinguishing Media:	Water spray or foam.
Extinguishing Media not to be used:	All other media
Exposure Hazards Resulting Gases:	Oxides of Nitrogen (NO _x), Carbon Monoxide (CO), Sulphur Dioxide (SO ₂), Hydrogen Sulphide (H ₂ S)
Combustion Products:	As above, plus Nitrogen (N ₂), Water Vapour (H ₂ O), Carbon Dioxide (CO ₂)
Protective Equipment:	Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion. Eye protection is also advised, in addition to normal protective suits and headgear.

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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Removal of Ignition Sources:	Yes
Provide Adequate Ventilation:	Yes
Provide Respiratory Equipment:	Only in fire situation
Control dust: Prevent Eye and Skin Contact:	Not applicable
	Only in event of fire

Environmental Precautions:

Keep away from drains:	Yes
Keep away from groundwater:	Only in fire situation
Keep away from soil:	Only in fire situation
Alert Neighbourhood:	Only on advice of Emergency Services

Clean Up Methods:

Use of Absorbent Material:	No. Collect material and seal in a suitable receptacles (heavy duty plastic bags, cases or drums properly labelled for disposal)
Use Binder:	No
Dilute with water:	No
Never use with:	Combustibles
Neutralise with:	Not applicable

In addition, refer to information under Sections 8 & 13.

7. HANDLING AND STORAGE

Precautions for:

Safe Handling:	Keep away from ignition sources. Do not smoke. Avoid impact and friction.
Ventilation:	Not applicable
Dust:	Not applicable
Aerosol Effects:	Not applicable
Fire:	Refer to local emergency procedure (also refer to information under Section 5)

Storage Precautions:

Incompatible materials:	Do not store with flammable / combustible materials Do not store with explosives of different Compatibility Group
Temperature:	Avoid external heat sources in excess of 60°C Prolonged exposure to temperatures above 55°C may lead to deterioration of the product
Humidity:	Avoid storage in humid conditions. Store in a dry and appropriately licensed magazine. Recommended storage life in original packaging is 24 months.
Static Electricity:	Normal requirements for licensed storage buildings
Quantity Limits:	As per licensed storage capacity

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8. EXPOSURE CONTROLS PERSONAL PROTECTION

Respiratory Protection:	Not required - only in event of exposure to fumes due to fire
Hand Protection:	Not required
Eye Protection:	Only in Fire
Skin protection:	Not required
Other Protective Clothing:	Not required

9. PHYSICAL CHEMICAL PROPERTIES

Appearance & Physical Form: A core of specially prepared blackpowder bound in with yarn to form a semifuse. This is then coated with bitumen over which is extruded a plastic outer coating to protect against moisture, abrasion and mechanical damage. Supplied on reels or in coils. Coil is closed at both ends by aluminium cap.

Colour / Odour	None
pH of substance/solution:	Not applicable
Boiling point/boiling range:	Not applicable
Melting point/melting range:	Not applicable
Flash point:	Not applicable
Flammability (solid/gas):	If ignited at exposed ends, will burn with release of smoke. Not prone to lateral transmission of flame.
Autoflammability:	Not applicable
Explosive properties:	Not applicable
Oxidising properties:	Not applicable
Vapour pressure:	Not applicable
Relative density:	Not applicable
Solubility - water solubility:	Not applicable
Vapour density:	Not applicable
Miscibility:	Not applicable
Evaporation rate:	Not applicable
Conductivity:	Not applicable
Viscosity:	Not applicable
Explosion limits:	Not applicable

10. STABILITY AND REACTIVITY

Stability:

Ignition can occur from excessive heating or by intense electrical energy from an extraneous source (eg. lightning).

Conditions to Avoid:

Temperature:	Heating to >55°C may lead accelerated aging of product. Heating to >128°C may lead to ignition of product. Avoid prolonged storage at temperatures in excess of 50°C. Store in cool and dry conditions.
Pressure:	No
Light:	Not applicable

Ignition: Exposure to ignition / heat sources can lead to ignition

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Materials to Avoid:

Water:	Yes
Air:	No
Acids:	Incompatible with acids. May react with product
Bases/Alkalis:	As with Acids.
Oxidisers:	Incompatible with acids. May react with product
Reducing Agents:	As with Oxidisers.
Specific Substances:	None
Decomposition:	Only under extreme conditions outlined above

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product information since the chemical constituents are sealed within polycoating.

Dangerous to Health:

Inhalation:	Burning of Safety Fuse produces oxides of carbon, sulphur and nitrogen. If fumes are inhaled, over exposure may lead to nausea, headaches and possibly unconsciousness. Anyone who is suspected of being so affected should have medical attention and kept under observation for at least 48 hours.
Ingestion:	Not to be ingested
Dermal:	Low
Eye contact:	May result in physical injury
Skin contact:	Not expected to be a skin irritant.
Sensitiser:	No
Carcinogenic:	No
Mutagenic:	No
Narcotic:	No
Teratogenic:	No
Toxic:	No

12. ECOLOGICAL INFORMATION

No experimental toxicological data of the product is available. Contamination of soil and groundwater should be avoided.

13. DISPOSAL CONDITIONS

Disposal for:

Article:	Burning under controlled conditions - seek expert advice
Preparation:	Not applicable
Contaminated packaging:	Disposal at site by controlled burning
Incineration:	No. Incineration only of remains of safety fuse prior to disposal by approved contractor
Recycling:	No
Landfill:	No

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Disposal and return of product should only be carried out under the direct supervision of a person knowledgeable about explosives products and in accordance with the requirements of the Health and Safety at Work Act 1974, the Control of Pollution Act 1974 and The Environmental Protection Act 1990.

14. TRANSPORT, PACKAGING AND LABELLING

UN Proper Shipping Name	
ADR/RID/IMDG/ICAO/IATA:	Fuse, Safety
UN Number	
ADR/RID/IMDG/ICAO/IATA:	0105
Class & Division	
ADR/RID/IMDG/ICAO/IATA:	1.4S
Packing Instruction (IATA):	140
Special Provision (IATA):	A802
ERG Code (IATA):	3L
Special Precaution for user:	
EmS	F-B, S-X

In addition, attention should be paid to additional information as set out in the Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations 1994 or in international agreements on the transport and packaging of dangerous goods.

15. REGULATORY INFORMATION

EEC Classification:	EE12
Danger Symbol:	As per SI 1140 1983
Risk Phrases:	See Section 2
Safety Advice:	See Section 2

In addition, reference should be made to any legislative or regulatory requirements which may be imposed by Regulation 9 of CHIP 2 and/or other relevant measures such as the Health & Safety at Work Act 1974 (HSWA) and the Control of Substances Hazardous to Health Regulations 2002 (COSHH) etc.

16. OTHER INFORMATION

Training Advice:	Seek advice on handling and use from the manufacturer.
Recommended use:	Safety fuses are used for the initiation of Ordinary Detonators.
Restrictions in Use:	Restricted by regulatory authority approvals.

This Material Safety Data Sheet (MSDS) summarizes at the date of issue our best knowledge of the health and safety hazard information of the product and, in particular, how to safely handle and use the product in the workplace. Since the manufacturer cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review the MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact the manufacturer.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.