

SUPREME CORD RELAYS

Safety • Quality • Reliability



COMPANY DETAILS

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PRODUCT AND COMPANY IDENTIFICATION

Trading Name: SUPREME CORD RELAYS
Chemical Family: Detonator Non-Electric for blasting, Cord Relay, Initiating System for Explosives Charge
Chemical Name: Detonator Non-Electric for blasting
Synonyms: SUPREME – SUPREME CORD RELAYS 17,25,42,50 & 67ms
Chemical abstract number: CAS No. 7429-90-5, 13424-46-9, 78-11-5
NIOSH no: Not Available
HAZCHEM code: E
UN number: 0029

COMPOSITION / INFORMATION ON INGREDIENTS

Product Description:

Use: To provide delay in timing between lengths of detonating fuse used for initiating explosives charges. The product consists of two detonators placed inside a plastic sheath. Each detonator has a priming charge typically consisting of lead azide and aluminum powder. It also contains a pyrotechnic delay element.

Component:	CAS No.	Proportion:	Risk Phrases:
Aluminum	7429-90-5	<1%	H261, H228
Metal and plastic components	-	>60%	-
Lead Azide	13424-46-9	<1%	H200, H360, H332, H302, H373, H400, H410
Pentaerythritol tetra nitrate (PETN)	78-11-5	<1%	-

HAZARDS IDENTIFICATION

Classified as Hazardous Goods with UN classification 1.1B and as per Explosives Rules 2008 (Government of SA).

Classification of the substance or mixture:

Explosives: Class 1.1B

Hazard Statement:

H201: Explosives: mass explosion hazard

Precautionary Statement(s):

Prevention:

P210: Keep away from heat/sparks/open flames/ hot surfaces.
No smoking
P240: Ground/bond container & receiving equipment
P250: Do not subject to grinding/shock/friction/impact/electrical energy from extraneous (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
P372: Explosion risk in case of fire
P373: DO NOT fight fire when fire reaches explosives

Storage:

P401: Store in accordance with hazardous substance (class 1 to 5) control regulations 2001

Disposal:

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

Product Name: SUPREME DET - NONEL (1.1B PACKAGING) Substance No: 000023037401

Poisons Schedule:

None None allocated.

FIRST AID MEASURES

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

Inhalation:

If inner coating inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Seek medical advice.

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:

Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek medical assistance.

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. Shrapnel from detonation may cause burns, wounds and bruises - treat symptomatically.

Notes to physician: Treat symptomatically. Explosive material.

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.

Precautions for fire fighters and special protective equipment:

Explosive. In case of fire where shock tube is not involved, carefully remove the Shock tube to a safe distance, otherwise evacuate area immediately and allow to burn. On burning will emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

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 Solar MS.

HANDLING AND STORAGE

Conditions for safe storage:

Explosives should not be normally carried on the same vehicle with dangerous goods of other classes, however, exemption may apply. Store in a clean dry magazine suitably licenced for IMCO Class 1.1 B explosives. Handle with care. Do NOT subject the material to impact, friction between hard surfaces nor to any form of heating. Keep out of reach of children.

Precautions for safe handling:

Handling advice: UN No.0029, Classified as 1.1 B (Explosives). dangerous substance for the purpose of transport. Refer to relevant regulations for storage and transport requirements.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

No value assigned for this specific material by the Local Regulatory Bodies. However, Exposure Standard(s) for constituent(s):

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

Aluminum (metal dust): 8hr TWA = 10 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.

Biological Exposure Indices:

Inorganic lead.

Engineering Measures:

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

Personal Protective Equipment

Eye/Face Protection:

Safety glasses with side-shields are recommended to prevent eye contact.

Skin Protection:

Long sleeved clothing. Impervious gloves.

Respiratory protection:

Use a NIOSH-approved respirator or equivalent during post-detonation clean-up operations.

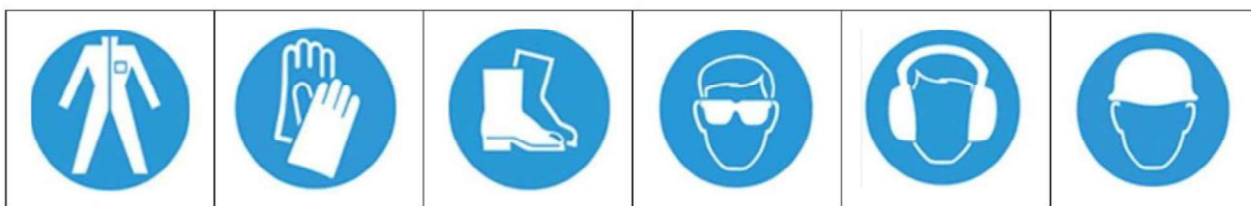
Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practice.

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.

SMS 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. handling. Wash hands and exposed skin before meals and after work.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Article
Colour	Red, yellow, white
Odour	None (odourless)
Solubility	Insoluble in water
Specific Gravity	N APP
Relative Vapour Density (air=1)	N APP
Vapour Pressure (20°C)	N App
Flash Point (°C)	N APP
Flammability Limits (%)	NIL
Auto ignition Temperature (°C)	N APP
% Volatile by Volume	NIL
Solubility in water (g/L)	N APP
Melting Point/Range (°C)	N APP
Decomposition Point (°C)	N APP
Sublimation Point (°C)	N App
pH	N App
Viscosity	N App

Evaporation Rate

N App

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.

Hazardous reactions:

Explosive material. Explosion may result due to shock, friction, fire and other sources of ignition. Hazardous polymerisation will not occur.

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.

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, fetotoxicity, developmental deficiencies in neonates and children, and testicular damage including decreased sperm count.

Acute toxicity:

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.

Chronic effects:

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.

ECOLOGICAL INFORMATION

Eco toxicity:

Avoid contaminating waterways.

Aquatic toxicity:

Expected to be persistent in the environment. May cause bioaccumulation.

DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of contents/container in accordance with local/regional/national/international regulations. For small quantities of damaged or deteriorated material: Place in a blast hole and explode during blasting. Large quantities should be returned to Economic Explosives Ltd or be disposed of in conjunction with the relevant State Dangerous Goods Branch. Do not move detonators showing obvious signs of deterioration. Contact Economic Explosives Ltd or relevant State Dangerous Goods Branch.

Waste Disposal Method:

Burn under supervision of an expert at and approved explosive burning ground or destroy by detonation in boreholes, in accordance with applicable local, provincial and federal regulations. Call upon the services of an SMS Technical Representative.


Contaminated Packaging:

No information available.

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	
Class-primary	1.1 B Explosive	
Proper Shipping Name	Detonator Non-Electric for blasting	
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.	
Class-primary	1.1 B Explosive	
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.	

REGULATORY INFORMATION

Classification:

Classified as Hazardous Goods with UN classification 1.1B and as per Explosives Rules 2008(Government of SA)

Classification of the substance or mixture:

Explosives - Division 1.1B

Hazard Statement (s):

H201: Explosive; mass explosion hazard

Poisons Schedule:

None None allocated

OTHER INFORMATION

This Material Safety Data Sheet has been prepared by Solar MS.

Reason(s) for Issue:

Revised Primary MSDS

This MSDS summarizes 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 Economic Explosives Ltd. 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 representative of Economic Explosives at the

contact details on page 1.

Economic Explosives Ltd. responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.