



MATERIAL SAFETY DATA SHEET

RAYDET / SHORT DELAY (SDD) & LONG DELAY DETONATORS (LDD)

Detonator Assemblies, Non- electric / Electric

Classification I-1B

UN No. 0029 / 0030

IDENTIFICATION

INGREDIENTS

Base charge of pentaerythritol tetranitrate (PETN) and a priming charge typically consisting of lead azide, lead styphnate and aluminum powder with a length of tubing with a dusting of PETN and aluminum powder adhering to the internal surface. A pyrotechnic delay element may also be present.

Chemical	Case No.
Penta Erythritol tetranitrate (PETN)	78-11-5
Aluminum powder	7429-90-5
Lead Azide	14324-46-9

USES

As initiators for explosive charges.

PHYSICAL DESCRIPTION/PROPERTIES

Appearance, odor: Metal tubes, closed at one and capped at the other with a length of coloured or opaque plastic tubing. In the case of Electric Detonators, pair of coloured leadwires attached.

Solubility: Insoluble in water

Reactivity: Detonation can occur from impact, friction or excessive heating.

HEALTH HAZARD INFORMATION

HEALTH EFFECTS

ACUTE EFFECTS - No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet. Symptoms that may arise if the product is mishandled are:

Swallowed : Not applicable
Eye : Not applicable
Skin : Not irritating to skin
Inhaled : Test firing of detonators on poorly ventilated areas can cause presence of lead fume in the air. Exposure to lead fume over a period of time can potentially result in lead poisoning.



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Chronic Effects: Long-term exposure to lead has resulted in kidney damage, anemia and central nervous system and peripheral nervous system damage.

FIRST AID

The packaging of these materials normally prevents any significant contamination with the charge.

Swallowed : Not applicable
Eye : Not applicable
Skin : Not applicable
Inhalation : Remove victim from exposure. Seek medical advise in effects persist.

ADVICE TO DOCTOR

Treat symptomatically.

TOXICITY

Long-term exposure to low concentrations of lead may result in altered hemoglobin breakdown, kidney damage, anemia and central & peripheral nervous system damage.

PRECAUTIONS FOR USE

ENGINEERING CONTROLS

When test firing ensure ventilation is adequate to prevent accumulation of fumes.

PERSONAL PROTECTIONS

No specific safety equipment necessary. Containment of charge within packaging prevents exposure. When test firing, use with adequate ventilation, always wash hands before smoking, eating, drinking or using the toilet.

FLAMABILITY

Explosive material. Avoid all ignition sources.

SAFE HANDLING INFORMATION

STORAGE AND TRANSPORT

Correct shipping name: DETONATOR ASSEMBLIES NON-ELECTRIC / ELECTRIC.
Classified as a 1.1 B (Explosive) - Dangerous Substances for the purpose of transport.

Explosives shall not normally the carried on the same vehicle with dangerous goods of other classes. Store in the clean dry magazine suitably licensed for IMCO Class 1.1 B explosives. Handle with care. Do not subject materials to impact, sparks or any form of heating.



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SPILLS

Shut off all possible sources of ignition. Collect all spill in labelled containers. In case of a transport accident notify the nearest local Authorities and EXPLOSIVES Division, GULF OIL Corporation Limited.

DISPOSAL

For small quantities, place in a blast hole and explode during blasting. For large quantities, contact EXPLOSIVES Division, GULF OIL Corporation Limited.

FIRE EXPLOSION HAZARDS

Severe detonation hazard when exposed to heat. In case of small fire where the actual detonators are not involved and are remote from the fire, carefully remove the detonators to a safe distance. Where explosive are involved in a fire, evacuate area immediately and allow fire to burn. DO NOT ATTEMPT to fight fire. Toxic fumes containing lead will be produced. Plug all entry points to site of fire.

OTHER INFORMATION

The SAFETY DATA SHEET 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 EXPLOSIVES Division, GULF OIL Corporation Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SAFETY DATA SHEET 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 EXPLOSIVES Division, GULF OIL Corporation Limited.

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