

Material Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: NON ELECTRIC DETONATORS.
Other names: Exel MS, Exel LP, Exel Handidet, Exel MS Connector, Exel TD, Exel Conectadet.
Recommended use: Initiate and connect other non-electric, trunklines and descending detonating cord as well as explosive charge.
Supplier: Orica Cuba (ULAEX, S.A.)
Address: Hotel Costazul. Edificio 51 D11.
 Villa Panamericana. Habana del Este.
 Ciudad Habana - Cuba
Telephone Number/Fax: +0053 7 7661086 // 0053 7 7663433 // 0053 7 7660482
e-mail: ulaex@ulaex.cu
Industrial Plant: La Campana. Manicaragua. Villa Clara-Cuba.
Tel/Fax: +0053 42 499112 // 0053 42 499142 // 0053 42 499143
Emergency Telephones: In Cuba: 05 2867633 // 05 2867625 // 042 499112.
 Out of Cuba: +0053 7 7660482 // 0053 5 2630345

2. HAZARDS IDENTIFICATION

Risk Classification Label: 1.1B, 1.4B / Explosive



UN Number: 0360 / 0361

a) Hazard for health of persons

Effects for overexposure acute (once): Not applicable.
Inhalation: Not applicable.
Skin Contact: Not applicable.
Eye Contact: Not probable. No evidence of effects.
Ingestion: Not applicable.
Effects for overexposure chronic (several times): No evidence of effects.

b) Hazards for the environment: Damage for explosion.

c) Product especial hazards: Explosive.

3. COMPOSITION / INFORMATION OF INGREDIENTS

Chemical Name: Pentaerythritoltetranitrate, Lead azide, lead, aluminium, plastic components.
Synonym: PETN, AzPb, Pb, Al, Surlyn, polyethylene
CAS Number: 78-11-5, 13424-46-9, 7439-92-1, 7429-90-5.

4. FIRSTS AIDS MEASURES

The construction of the product normally prevents the contact with explosive components; in case of accidental contact proceed according to the following:

Inhalation: Take to fresh air. If symptoms persist, seek medical advice.
Skin: Wash out with water and soap, if symptoms persist, seek medical advice.
Eyes: Wash out with water at least 15 minutes. If irritation persists seek medical advice.
Ingestion: Rinse mouth with water; if swallowed, give a glass to water to drink (never induce vomit) and seek medical advice. Residues from post-detonation are toxic if ingested. Symptoms can include gastroenteritis with pain, nausea, vomits and diarrhoea seek medical advice quickly.

Medical attention and treatment: Treat according to symptoms. Explosive material. Exposure to gases for a long period may result in lead exposure.

5. FIRE FIGHTING MEASURES

Specific danger: **Explosive material**, avoid any ignition source.
Fire fighting means: **DO NOT fight fires.** Explosives. Severe danger of detonation for heat exposure. When burning Exel will fume toxic emanations, including those derived from lead.
Personnel procedure to fight fire: Evacuate area.
Personal protection equipment to fight fire: Fire-fighters must wear mask to keep from breathing these gases and protective clothing to insulate from steams or products generated from combustion.

6. ACCIDENTAL RELEASE MEASURES

Steps to follow in case of escape or material leakage:

- In case of transport accident, notify immediately to Orica Mining Services en Cuba at the Emergency Telephone +05 2867633.
- Eliminate all possible ignition sources.
- Recollection of residues or elements and disposal following procedures.

- Notify authorities according to the emergency response procedures.
- Only trained personnel in emergency answer must respond.
- Normal precautions taken in the explosives handling.
- Disposal prevention method: Control burning under strict procedures.

Method for the residues disposal: The disposal must fulfil with the Federal, Governmental and Local. If the product becomes rubbish, it is potentially regulated as dangerous goods. Review requisites of disposal with a well trained person on the applicable environmental law before disposing any explosive material.

7. HANDLING AND STORAGE

Recommendations for handling:

- Keep away from heat sources.
- Not to expose to impact or friction between hard surfaces or any way of heat.
- Handle with care.
- Handling only allowed to trained personnel.

Recommendations to store:

- Store in authorised magazine, with moderate temperature, low humidity and good ventilation.
- Transport packaged in cardboard box.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Ventilation:	It is not required for its normal handling.
Respiratory protection:	It is not required for its normal handling. It must be ventilated after its use in underground mines or other surrounding areas.
Protective clothing:	It is recommended cotton clothing.
Protective gloves:	Gloves are not required when handling.
Visual protection:	It is recommended wearing glasses when handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Capsule and shock tube contain explosive substances.
Odour:	Odourless.
Solubility:	Insoluble in water.
Decomposition point:	> 70° C.
Self-ignition point:	+/- 190° C.
Flash point:	Not applicable.
Explosive properties:	Yes.
Danger of fire or explosion:	Yes.
Propagation flame speed:	Not applicable.
Steam pressure at 20°C:	Not applicable.
Steam density:	Not applicable.
Density at 20° C:	Not applicable.

10. STABILITY AND REACTIVITY

Stability:	It is stable under normal conditions; it may detonate when it is exposed to fire, impact or friction.
Conditions to avoid:	Keep away from fire, flame, ignition sources, impact, rubbing, electrostatic discharges, strong strike. Never try to dismantle the detonator.
Incompatibility:	High power explosive, acids and alkali (corrosive agents).
Dangerous materials for decomposition:	Carbon monoxide (CO), nitrous oxides (NO _x), sulphide, lead (Pb), several oxides as well as complex metallic oxides.
Dangerous polymerization:	Not occurred.

11. TOXICOLOGICAL INFORMATION

Adverse to effects health is not expected, if the product is handled according to this safety datasheet and the product label. Symptoms or effects may occur if the product is badly handled or overexposure is suspected:

Acute toxicity: Not applicable.

Chronic or long term toxicity: Not applicable.

Local effects: Not applicable.

Allergenic sensibility: Not applicable.

12. ECOLOGIC INFORMATION

Instability:	Not applicable.
Persistence/Degradability:	Not applicable.
Bioacumulación:	Not applicable.
Effects on the environment:	Not applicable.

13. FINAL DISPOSAL CONSIDERATIONS

Method of product elimination: Deteriorated or damaged explosives must be destroyed under strict controlled burning procedures, or notify to their Orica Mining Services technical representative in Cuba.

Disposal of package / contaminated boxes: Controlled burning under strict procedures.

14. TRANSPORT INFORMATION

UN Identification: No. 0360 0361

Class: 1.1 B, 1.4 B
Transport name: Set of Non electric detonators.

15. REGULATORY INFORMATION

This product is an "explosive" and must fulfil local regulations of dangerous goods; in case of transport, this will be based in the IATA Code for air and IMDG Code for sea.

16. OTHER INFORMATION

Data consigned upon this Informative Sheet were obtained from dependable sources. However, they are provided without express or implied guarantee in relation to their accuracy or adjustment. Opinions expressed in this paper belong to qualified professionals. The information provided is the one currently known on the subject.

Considering the use of this information and the products out of the suppliers' control, the company does not take responsibility for this concept. The determination of safe use of this product is obligatory for the user.

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