



Material Safety Data Sheet

Electric Detonators - Delay

Electric

in accordance with the regulation No. 231/2004 Law digest (CZE)

1. Identification of the substance/preparation and the company/carrier

1.1 Product Name

CAS No.:
ES (EINECS) No.:
Other names of the product:

Electric Detonator - Delay

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ROCKSTAR, TIMESTAR, DEM-ZB, DEM, DED, DEP, COALSTAR

1.2 Identification of the manufacturer/carrier

Company:
Place of business/headquarters:
Company registration No.:
Telephone:
Fax:
Toxicological information centre (TIC):

Austin Detonator s.r.o.

Jasenice 712, 755 01 Vsetín
25 68 99 16
+420 571 404 170
+420 571 404 002
Clinic of occupational diseases, Na Bojišti 1171/1, 128 21 Praha 2
Non-stop telephone: +420 224 919 293 or +420 224 915 402

2. Information on the composition of the substance/preparation

The product contains these hazardous substances:

PETN (Pentaerythritol Tetranitrate)

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78-11-5
201-084-3
603-035-00-5

E - Explosive

R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
S2 Keep out of the reach of children.
S35 This material and its container must be disposed of in a safe way.

Lead azide

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13424-46-9
236-542-1
082-003-00-7

E - Explosive, T - Toxic, N - Dangerous for the environment

R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R33 Danger of cumulative effects.
R61 May cause harm to the unborn child.
R62 Possible risk of impaired fertility.
R20/22 Harmful by inhalation and if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S53 Avoid exposure - obtain special instructions before use.
S45 In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible.)
S60 This material and its container must be disposed of as a hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Chemical entity:
Proportion in (%):
CAS No.:
ES (EINECS) No.:
Index No.:
Hazard Symbol:
R-phrase:
S-phrase:

Chemical entity:
Proportion in (%):
CAS No.:
ES (EINECS) No.:
Index No.:
Hazard Symbols:
R-phrase:
S-phrase:

Chemical entity:	Barium chromate
Proportion in (%):	-
CAS No.:	10294-40-3
ES (EINECS) No.:	233-660-5
Hazard Symbols:	T - Toxic, O - Oxidising
R-phrase:	R45-8-20/22
S-phrase:	S53-28
Chemical entity:	Lead (II, IV) oxide
Proportion in (%):	-
CAS No.:	1314-41-6
ES (EINECS) No.:	215-235-6
Hazard Symbols:	T - Toxic, O - Oxidising
R-phrase:	R45-8-20/22
S-phrase:	S45-53

Product information

Hazard symbols:	E - Explosive T - Toxic N - Dangerous for the environment
R-phrase:	R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition. R33 Danger of cumulative effects. R61 May cause harm to the unborn child. R62 Possible risk of impaired fertility. R20/22 Harmful by inhalation and if swallowed. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase:	S53 Avoid exposure - obtain special instructions before use. S45 In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible.) S60 This material and its container must be disposed of as a hazardous waste. S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

3. Information on the substance/preparation hazards

The most serious and adverse effects on human health when using the substance / preparation: **explosion**
The most serious and adverse effects on the environment when using the substance / preparation: **explosion**
Potential improper use of the substance / preparation: -
Other information: **An explosion may occur during the contact with an open fire, due to radiant heat or as a result of an impact or friction.**

4. First aid measures

4.1 General instructions:	-
4.2 Inhalation:	not applicable
4.3 Skin contact:	not applicable
4.4 Eye contact:	not applicable
4.5 Ingestion:	not applicable
4.6 Other information:	The above-mentioned substances are contained within a metal tube. Their release into the environment is impossible.

<p>5.1 Suitable extinguishing agents: 5.2 Unsuitable extinguishing agents: 5.3 Hazards: 5.4 Special protective means for fire fighters: 5.5 Other information:</p>	<p>5. Fire fighting measures</p> <p>According to the character of the surrounding fire. - Extreme danger of explosion, toxic fumes and vapour may be produced.</p> <p>When removing consequences of a potential fire, use an insulation respirator. Do not fight fires. Evacuate personnel from the endangered area immediately. Let the fire burn out.</p>
<p>6.1 Safety measures for personnel protection: 6.2 Safety measures for environmental protection: 6.3 Recommended methods of removal and disposal: 6.4 Other information:</p>	<p>6. Accidental release measures</p> <p>Prevent any access of unauthorised personnel.</p> <p>not applicable Collect released material into original or standby containers. Label the containers properly. Never use any damaged products! Disposal of damaged products can be carried out only by a licensed blaster (see §35 of the regulation No. 61/88 Law digest, CZE) on an approved and homologized place. In case of a mechanical damage of detonators, we recommend to contact immediately the producer who will ensure professional disposal of unusable pieces.</p>
<p>7.1 Handling instructions: 7.2 Storage instructions:</p>	<p>7. Handling and storage</p> <p>Handle with care. After unpacking, use protective glasses. See also point No 3. Store in a place with the temperature scope from -30°C to +40°C.</p>
<p>8.1 Technical measures: 8.2 Control parameters: 8.3 Personal protective means: 8.4 Other information:</p>	<p>8. Exposure controls/personal protection</p> <p>- - Protection of respiratory organs: respirator in case of contact with the fumes after detonation Eye protection: protective glasses Hand protection: not required Skin protection: not required Avoid inhaling the fumes after detonation.</p>
<p>State (at 20°C): Colour: Smell (aroma): pH value (at 20°C): Melting point (°C): Boiling point (°C): Flash point (°C): Flammability: Pyrophoricity: Explosion limits: upper limit (% volume): lower limit (% volume): Oxidising properties: Vapour pressure (at 20°C): Specific gravity (at 20°C):</p>	<p>9. Physical and chemical properties</p> <p>all components – solid state - without smell not applicable not applicable not applicable not applicable non-flammable container, flammable content is not pyrophorous not applicable - - contains an oxidant not applicable not applicable</p>

<p>Solubility (at 20°C): in water in oils distribution coefficient n-octanol/ water: Other information:</p>	<p>dissoluble not applicable not applicable -</p>
10. Stability and reactivity	
<p>Conditions in which the product is stable: Conditions to be avoided: Substances and materials that must not come into contact with the product: Dangerous degradation products: Other information:</p>	<p>Defined in the instructions. An explosion may occur during the contact with an open fire, due to radiant heat or as a result of an impact or friction. Acids and alkalis. Fumes containing lead. -</p>
11. Toxicological information	
<p>Acute toxicity Subchronic - chronic toxicity: Sensitisation: Carcinogenic characteristics: Mutagenic characteristics: Toxicity for fertility: Experience in human: Carrying out experiments on ani- mals: Other information:</p>	<p>- LD50, orally, rat (mg.kg⁻¹): > 10000 mg/kg (lead (II, IV) oxide) - LD50, dermally, rat or rabbit (mg.kg⁻¹): - - LC50, by inhalation, rat, for aerosols and particles (mg.kg⁻¹): - - LC50, by inhalation, rat, for fumes and vapours (mg.kg⁻¹): - - - - - - Inhalation of decomposition fumes may result in headache and feeling feeble, unwell or sick; long-term exposure may result in haemapoiesis defects and kidney or central nervous system damage. - -</p>
12. Ecological information	
<p>Acute toxicity for aquatic or- ganisms: Decomposability: Toxicity for other environments: Chemical oxygen demand (COD): Biological oxygen demand (BOD5): Other information:</p>	<p>- LD50, 96 hours, fish (mg.kg⁻¹): > 56000 mg/l (Gambusia affinis) (lead (II, IV) oxide) - EC50, 48 hours, water flea (mg.kg⁻¹): - - IC50, 72 hours, algae (mg.kg⁻¹): - - - Contained lead (II) salts and fumes after an explosion are toxic for the environment. - - -</p>
13. Disposal considerations	
<p>Ways of substance/preparation disposal: Ways of contaminated container disposal: Other information:</p>	<p>Disposal is to be carried out by a blast on a designated and approved place. Disposal can be carried out only by a licensed blaster. Container contamination - not applicable. -</p>

14. Transport information**Land transport:**

ADR/RID: -, Class: 1, Classification code: 1.4B, Warning board: -, UN number: 0255, Note: Label 1.4

Inland waterway transport:

ADN/ADNR: -, Class: 1, Classification code: 1.4B, UN number: 0255

Sea transport:

Class: 1, UN number: 0255, IMDG: -, Package type: outer package of corrugated cardboard, Substance polluting the sea: -, Technical designation: Detonator - electric

Air transport:

Class: 1.4B, UN number: 0255, ICAO/IATA: -, Package type: outer package of corrugated cardboard, Technical designation: Detonators, electric for blasting

Other informations:

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15. Product information

Hazard symbols:

E - Explosive
T - Toxic
N - Dangerous for the environment

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