

# eDev™ Detonator

SDS no. : 3032  
Issue : 01  
Date of revising : 2010-04-19

## 1st Identification of the substance / preparation and of the company / undertaking

### 1.1 Identification of the substance or preparation

eDev™ Detonator

### 1.2 Use of the substance / preparation

Detonators for initiating commercial explosives

### 1.3 Company / undertaking identification

**Orica Norway AS**

**Røykenveien 18**

**3412 LIERSTRANDA**

**Norway**

**Phone: +45 43451538**

***E-mail address of the competent person responsible for the Safety Data Sheet:***

johan.svaerd@orica.com

### 1.4 Emergency telephone

+47 91 70 58 50

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## 2nd Hazards identification

### 2.1 Classification

E; R2

### 2.2 Hazard description

#### ***Fire and explosion***

Risk of explosion by shock, friction, fire or other sources of ignition.  
The total amount of explosives in the product is approximately 900 mg.

#### ***Health***

The product is not classified as hazardous to health. Splinters from detonation may cause burns and wounds.

#### ***Environment***

The product is not classified as harmful to the environment.

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## 3rd Composition / information on ingredients

<i>Dangerous contents</i>	<i>CAS No.</i>	<i>EINECS no.</i>	<i>Contents</i>	<i>Code letters of danger symbol</i>	<i>R phrases</i>
<b>Pentaerythritol tetranitrate (PETN)</b>	78-11-5	201-084-3	<1 %	E	3
<b>2,4,6-Trinitrotoluene (TNT)</b>	118-96-7	204-289-6	<1 %	E; T; N	2-23/24/25-33-51/53
<b>Lead azide</b>	13424-46-9	236-542-1	<0.1 %	E; T; N	3-20/22-33-50/53-61-62
<b>Lead chromate</b>	7758-97-6	231-846-0	<0.1 %	T; N	33-40-50/53-61-62

### **Column headings**

CAS no. = Chemical Abstracts Service;  
EU (Einecs or Elincs number) = European inventory of Existing Commercial Chemical Substances  
Ingredient name = Name as specified in the substance list (substances that are not included in the substance list must be translated, if possible).  
Contents given in %, %wt/wt, %vol/wt, %vol/vol, mg/m<sup>3</sup>, ppb, ppm, weight%, vol%

### **HH/HF/HE**

T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E = Explosive, O = Oxidizing,  
F+ = Extremely flammable, F = Very flammable, N = Environmental hazard

### **Component comments**

Ingredients 1 and 2 are in a mixture called Pentolite and the total amount of Pentolite is <1 %.  
See section 16 for explanation of Risk-phrases listed above.  
The ingredient balance up to 100 % is not classified components or under the limit for including in the calculation.

### **Description**

Detonator, electronic, freely programmable delay time.  
The function of the detonators are to initiate commercial explosives.  
They are initiated by a coded electronic signal.  
The detonators have a diameter of about 8 mm and a length of about 100 mm.  
They consist of metal shell closed with a tightly pressed plug holding the lead wires.  
The shell contains the electronics with attached fuse head and about 900 mg of various explosives.

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## 4th First aid measures

### 4.1 General

If in doubt, get medical advice.

### 4.2 Inhalation

Fresh air and rest. Get medical attention if any discomfort continues.

### 4.3 Skin contact

Splinters from steel, copper or aluminium may cause great damage, possibly blood poisoning.

### 4.4 Eye contact

Splinters from detonation may cause burns and wounds. Immediately consult a doctor.

### 4.5 Ingestion

Not relevant. Rinse mouth thoroughly. Immediately consult a doctor.

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## 5th Fire-fighting measures

### 5.1 Suitable extinguishing media

Extinguish surrounding fires with suitable extinguisher.

### 5.2 Improper extinguishing media

Do not fight fires involving explosives, risk of explosion!

### 5.3 Fire and explosion hazards

Risk of explosion by shock, friction, fire or other sources of ignition.

### 5.4 Personal protective equipment

Use fresh air equipment when the product is involved in fire.  
In case of evacuation, an approved protection mask should be used. See also sect. 8.

### 5.5 Other Information

Evacuate all personnel to a predetermined safe location.  
Notify authorities in accordance with emergency response procedures.  
Containers close to fire should be removed immediately or cooled with water.

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## 6th Accidental release measures

### 6.1 General measures

Spill is unproblematic because of the packaging and consistency of the product.

### 6.2 Personal precautions

Use protection equipment as given in section 8.

### 6.3 Environmental precautions

The product must not be dumped in nature but collected and delivered according to agreement with the local authorities.

### 6.4 Methods for cleaning

Detonators must be picked up by hand and put in approved, labelled containers. Sweep up residues with non-sparking tools and remove.

The product is hazardous waste and should be transferred to a closable, labelled salvage container for disposal by an appropriate method (See sect. 13).

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## 7th Handling and storage

### 7.1 Handling

Only to be handled by authorized personnel. The explosives must be under supervision and unavailable for unauthorized persons.

Take precautionary measures against static discharges.

Keep away from sources of ignition - No smoking. Protect against heating.

Protect against physical damage and/or friction.

### 7.2 Storage

Store in a dry well ventilated place. Storage room must be locked and secured from fire.

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## 8th Exposure controls / personal protection

### 8.1 Exposure limit values

Component name	Identification	Unit	Year
Lead, inorganic dusts & fumes (as Pb)		8h: 0,05 mg/m <sup>3</sup> , R	1993
2,4,6-Trinitrotoluene	CAS no.: 118-96-7 EC no.: 204-289-6	8h: 0,1 mg/m <sup>3</sup> Value: 0,2 mg/m <sup>3</sup> , 15 min	2000

### 8.2 Exposure controls

#### 8.2.1 Other Information about threshold limit values

The exposure limit values are Swedish limits.  
The last edition of Occupational exposure limit values and measures against air contaminants is from 2007.  
The given safety equipment is a suggestion.  
Risk assessment (actual risk) may lead to other requirements.

#### 8.2.2 Occupational exposure controls

Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet.  
Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

##### a) Respiratory protection

Normally not required.  
In case of inadequate ventilation: Use respiratory equipment with particle filter, type P2/P3.

##### b) Hand protection

Use gloves suitable for the work.

##### c) Eye protection

Wear splash-proof eye goggles to prevent any possibility of eye contact.

##### d) Skin protection (other than of the hands)

Normal working clothes.

##### e) Other Information

Eye wash facilities should be available when handling this product.

## 9th Physical and chemical properties

**Physical state:** Solid. See section 3.

**Odour:** None

### Other physical and chemical properties

**Comments:** See Technical Data Sheet for more information.

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## 10th Stability and Reactivity

### 10.1 Conditions to avoid

Fire, heat, electrostatic or mechanical effects may cause the detonators to explode, creating the potential for shrapnel.  
If unpacked detonators are ignited, there is a danger of injuries due to fragments, shock wave or heat.

1.1B - Mass explosion hazard

1.4S - No mass explosion hazard  
- If detonators explode in the original package, the effects are substantially limited to the packaged items.

### 10.2 Stability

Stable under normal temperature conditions and recommended use.

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## 11th Toxicological information

### 11.1 Other information regarding health hazards

<b>General:</b>	Splinters from detonation may cause considerable burns and wounds to the skin and eyes.
<b>Inhalation:</b>	Gas or vapour may irritate respiratory system.
<b>Skin contact:</b>	Not relevant.
<b>Eye contact:</b>	Moderately irritating.
<b>Ingestion:</b>	Not likely, due to the form of the product.
<b>Chronic effects:</b>	No known chronic or acute health hazards.
<b>Sensitisation:</b>	Sensitizing properties are not known.
<b>Carcinogenicity:</b>	Carcinogenic properties are not known.
<b>Teratogenic properties:</b>	Effects on fetus development are not known.
<b>Reproductive toxicity:</b>	Effects harmful to reproduction are not known.
<b>Mutagenicity:</b>	Mutagenic properties are not known.

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## 12th Ecological information

### 12.1 Other ecological information

<b>Ecotoxicity:</b>	The product is not classified as dangerous for the environment.
<b>Mobility:</b>	Insoluble in water.
<b>Persistence and degradability:</b>	The product is not biodegradable.
<b>Bioakkumulativ potential:</b>	Contains components with the potential to bio accumulate.

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## 13th Disposal considerations

### 13.1 Specify the appropriate methods of disposal

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes. Residues of explosives must immediately be removed for intermediate storage and disposed for safely destruction. Product and package is hazardous waste.  
Deliver to approved depot.

## 14th Transport information

### Product name (national)

DETONATORS, ELECTRIC

### Dangerous goods ADR

Status:	Yes	Yes
UN no.:	0030	0456
Class:	1.1B	1.4S
Proper shipping name:	DETONATORS, ELECTRIC	DETONATORS, ELECTRIC

### Dangerous goods RID

Status:	Yes	Yes
UN no.:	0030	0456
Class:	1.1B	1.4S
Proper shipping name:	DETONATORS, ELECTRIC	DETONATORS, ELECTRIC

### Dangerous goods IMDG

Status:	Yes	Yes
UN no.:	0030	0456
Class:	1.1B	1.4S
IMDG Marine pollutant:	No	No
EmS:	F-B, S-X	F-B, S-X
Proper shipping name:	DETONATORS, ELECTRIC	DETONATORS, ELECTRIC

### Dangerous goods ICAO/IATA

Status:	Forbidden	Yes
UN no.:	-	0456
Class:	-	1.4S
Proper shipping name:	-	DETONATORS, ELECTRIC

### Other applicable information

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## 15th Regulatory information

### Hazard symbol:



### R phrases

R2 - Risk of explosion by shock, friction, fire or other sources of ignition.

### S phrases

S35 - This material and its container must be disposed of in a safe way.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### References (laws/regulations)

Dangerous goods regulation.  
Directive (EC) nr 1907/2006 (REACH) Annex II: Safety data sheets.  
Occupational Exposure Limits. EH40/2005.  
CHIPS Regulation.  
Regulation on Hazardous Waste.

### National Regulations

Approval conditions must be respected.



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## 16th Other information

### *List of relevant R phrases (under headings 2 and 3)*

- R2 - Risk of explosion by shock, friction, fire or other sources of ignition.
- R3 - Extreme risk of explosion by shock, friction, fire or other sources of ignition.
- R20/22 - Harmful by inhalation and if swallowed.
- R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.
- R33 - Danger of cumulative effects.
- R40 - Possible risk of irreversible effects.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R61 - May cause harm to the unborn child.
- R62 - Possible risk of impaired fertility.

### *Information which has been added, deleted or revised*

New safety data sheet.

### *Supplier's notes*

Information in this document is to be made available for all who handle the product.

### *Technical contact point*

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This Safety Data Sheet is handed only in the form of a machine-written original document, any copies are not authorized.

The information contained is based on the present state of our knowledge.

It characterizes the product with regard to the appropriate safety precautions, but does not represent any guarantee with regard to product properties fixed by contract.

As being machine-written this Safety Data Sheet is not signed.