Safety Data Sheet

Exel™ Detonators

The Power of Partnership

SDS no. : 3016
Issue : 01.1
Date : 2012-06-05

1st Identification of the Substance/preparation and of the company / manufacturer

Product-name:

Exel™ MS, Exel™ LP, Exel™ Handidet, Exel™ Handidet SL, Exel™ Connectadet, Exel™ Connectadet SL, Exel™ U Det, Exel™ B Connector, Exel™ Lead-In Line, Exel™ Starter

Usage:

Detonators for the initiation of capsule-sensitive explosive agents and detonating-cords.

Manufacturer/Supplier:

Orica Poland Sp. z o.o.

ul. T. Kościuszki 16/4

50-038 Wrocław

Poland

Phone : +48 (0) 71 341 97 76
E-Mail : emilian.janusz@orica.com

Emergency phone number : +48 601 050 488

2nd Hazards identification

Possible dangers:

Fire and explosion: Risk of explosion by shock, friction, fire or other sources of ignition.
Risk of explosion, an uncontrolled explosion may cause great physical damage.

Health: Exposure concerns are primarily with post-detonation reaction products.
Splinters from the detonation may cause considerable burns and wounds.
Inhalation of gas is considered to be neglectable.
At detonation the amount of explosive per igniter will maximum generate 1 l of gas.

Environment: The product is not classified as harmful to the environment.

Other hazards:

Exel™ Lead-In Line has no classification.

3rd Composition / information on ingredients:

DETONATOR / CONNECTION UNITS:

Dangerous contents:	*CAS No.*	*EINECS no.*	*Code letters of danger symbol*	*R phrases*	*Contents*
Pentaerythritol tetranitrate	78-11-5	201-084-3	E	R3	~ 0,2 g
Polyethylene	25087-34-7				
Aluminium (detonator case)	7429-90-5	231-072-3			
Rubber (sealing case)	144046-11-7				

HIGH STRENGTH DETONATORS:

Dangerous contents:	*CAS No.*	*EINECS no.*	*Code letters of danger symbol*	*R phrases*	*Contents*
Hexogen (RDX)	121-82-4	204-500-1	E; T	R2; R25	0,5 - 1,0 g
Pentaerythritol tetranitrate	78-11-5	201-084-3	E	R3	0,5 - 1,0 g

TUBE:

Dangerous contents:	*CAS No.*	*EINECS no.*	*Code letters of danger symbol*	*R phrases*	*Contents*
Octogen (HMX)	2914-29-6	220-260-0	E; T	R2; R25	0,01 - 0,02
Aluminium powder (pyrophoric)	7429-90-5	231-072-3	F	R15; R17	0,01 - 0,005
Ionomer (plastic inner)	25608-26-6				~ 2
Polyethylene (middle and exterior layer)	25087-34-7				~ 4

DETONATING FUSE:

Dangerous contents:	*CAS No.*	*EINECS no.*	*Code letters of danger symbol*	*R phrases*	*Contents*
Pentaerythritol tetranitrate	78-11-5	201-084-3	E	R3	~ 5

Component comments:

The contents without denominations shall have g/m.
See section 16 for explanation of Risk-phrases listed above.

Different detonator assemblies:
High strength detonators with aluminium case, tubes with interior coating of explosive material.
Connection units in plastic, containing detonators like above, but the charge is reduced.

4th First aid measures

General: If in doubt, get medical advice.InhalationFresh air and rest.
Get medical attention if any discomfort continues.

Skin contact: Splinters from steel or aluminium may cause great damage, possibly blood poisoning.
Consult a doctor if symptoms should occur.

Eye contact: Splinters from steel or aluminium may cause damage. Immediately consult a doctor.

Ingestion: Not relevant. Rinse the mouth. Consult a doctor.

5th Fire-fighting measures

Suitable extinguishing media: Extinguish surrounding fires with suitable extinguisher.

Improper extinguishing media: Do not fight fires involving explosives, risk of explosion.
Fire in explosives can not be extinguished with any fire fighter equipment. Fire fighting should be limited to preventing spread of other fires.

Fire and explosion hazards: Extreme risk of explosion by shock, friction, fire or other sources of ignition.

Personal protective equipment: Use self-contained breathing protection when the productis involved in fire.
In case of evacuation, an approved protection mask should be used.
See also sect. 8.

Other Information: Evacuate all personnel to a predetermined safe location.
Notify authorities in accordance with emergency response procedures.
If possible without risk, immediately remove containers close to the fire.

6th Accidental release measures

General measures: Accident release to soil can easily be cleaned up because of the packaging of the product.

Personal precautions: Use protection equipment as given in section 8.
Avoid contact with skin and eyes.

Environmental precautions: Do not allow to enter into sewer, water system or soil.

Methods for cleaning: Detonators must be picked up mechanically and put in approved, labelled containers.
Make sure there are no explosives with the detonators.
The product is hazardous waste and should be transferred to a closable, labelled salvage container for disposal by an appropriate method (See sect. 13)

Other instructions: -

7th Handling and storage

Handling:

Only to be handled by authorized personnel.
Place the explosives under supervision and unavailable for persons not concerned.
Avoid smoking and use of open fire.
Protect against heating.
Protect against physical damage and/or friction.

Storage:

Store in a dry well ventilated place.
Storage room must be locked and secured from fire.
Keep away from heat, flame, ignition sources and strong shock
Store separated from: explosives.
To be stored at temperatures between 0 °C and 30 °C.

Special risks and properties:

Extreme risk of explosion by shock, friction, fire or other sources of ignition

8th Exposure controls / personal protection

Exposure limit values:

Component name	*Identification*		*Unit*	*Year*
	CAS No.	*EINECS no.*		
Aluminium powder	7429-90-5	231-072-3	8 h : 2 mg/m^3	1996

Exposure controls:

Other Information:

The exposure limit values are Swedish limits.
Be aware that limit values in other countries may differ from these.
The last edition of Occupational exposure limit values and measures against air contaminants is from 2007.
The given safety equiptment is a suggestion.
Risk assessment (actual risk) may lead to other requirements.

Occupational exposure controls:

No eating, drinking or smoking while working with this material.
Wash hands at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection:

Normally not required.

Hand protection:

Use gloves suitable for the work.

Eye protection:

Normally not necessary.

Skin protection:
(other than of the hands)

Wear appropriate anti-static clothing.

Other Information:

Eye wash facilities should be available when handling this product.

9th Physical and chemical properties

Physical state: Different detonator assemblies.
See section 3, or the Technical Data Sheet for each product.

Odour: None

Specific gravity:
Value: 1500 kg/m^3
Comments: The value is for the plastics in the tube.

Melting point/melting range:
Value: >120 °C
Comments: The value is for the plastics in the tube.

Melting point for detonators is 141 °C (Pentaerytritoltetranitrate)

Flash point:
Value: >220 °C
Comments: The value is for the plastics in the tube.

Spontaneous combustability:
Value: ~ 260 °C
Comments: The value is for the plastics in the tube.

Spontaneous combustability for detonators is 202 °C (charge in detonator)

Other physical and chemical properties: See Technical Data Sheet for each product for more information.

10th Stability and Reactivity

Conditions to avoid: May detonate with impact, friction or on heating.
Do not expose to temperatures above 50 °C.

Stability: Stable under normal temperature conditions and recommended use.

11th Toxicological information

General:	Exposure concerns are primarily with post-detonation reaction products. Splinters from the detonation may cause considerable burns and wounds to the skin and eyes.
Inhalation:	Gas or vapour may irritate respiratory system.
Skin contact:	Not relevant.
Eye contact:	Moderately irritating.
Ingestion:	Not likely, due to the packaging. Harmful if swallowed.
Chronic effects:	No known chronic or acute health hazards.
Sensitisation:	Sensitizing properties are not known.
Carcinogenicity:	Carcinogenic properties are not known.
Teratogenic properties:	Effects on fetus development are not known.
Reproductive toxicity:	Effects harmful to reproduction are not known.
Mutagenicity:	Mutagenic properties are not known.

12th Ecological information

Ecotoxicity:	The product is not classified as dangerous for the environment.
Mobility:	Insoluble in water.
Persistence and degradability:	Not readily biodegradable.
Bioaccumulative potential:	Will not bio-accumulate.

13th Disposal considerations

Product classified as hazardous waste:	Yes
Packaging classified as hazardous waste:	Yes
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

Proper shipping name	: DETONATOR ASSEMBLIES, NON-ELECTRIC		
ADR / RID - class	: **1**		
Classification code	: **1.1B**	**1.4B**	**1.4S**
UN-no.	: 0360	0361	0500
Packing method	: P 131	P 131	P 131
IMDG / GGVSee - class	: 1.1B	1.4B	1.4S
UN-no.	: 0360	0360	0500
EMS-no.	: F-B, S-X	F-B, S-X	F-B, S-X
ICAO / IATA	: forbidden	1.4B	1.4S
UN-no.	: -	0360	0500
Packing instruction	: -	131	131
Remarks	: Mass explosion hazard	No mass explosion hazard	No mass explosion hazard

The transport information does not apply for Exel™ Lead-In Line. The product does not have a transport classification.

15th Regulations

R phrases: R2 - Risk of explosion by shock, friction, fire or other sources ofignition.

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 lable where possible).

According to directive 1999/45/EC of the Council for the Harmonisation of Legal and Administrative Regulations for the Classification, Packaging and Labelling of dangerous preparations, an identification of articles with explosives in accordance with international transport regulations is sufficient.

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENTAND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

National Regulations

-

16th Other information

Recommended restrictions on use:

Handling of explosives and explosive articles should only be allowed to qualified persons and in accordance with the specific national regulations.

Supplier's notes:

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

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

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

R3 - Extreme risk of explosion by shock, friction, fire or othersources of ignition.

R15 - Contact with water liberates extremely flammable gases.

R17 - Spontaneously flammable in air.

R25 - Toxic if swallowed.

Technical contact point

Emilian Janusz
Phone number: +48 (0) 713419776

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.