



SAFETY DATA SHEET

SD SERIES LF DETONATORS

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ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name Soft Detonators Lead Free.
CAS No. Article.
EC No. Article.
REACH Registration No. None assigned.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s) Detonator.
Uses Advised Against Not known.

1.3 Details of the supplier of the safety data sheet

Company Identification Event Horizon Pyrotechnics Ltd
Address of Manufacturer The Old Brewery
Stagman Lane
Ashcott
Somerset
Postal code TA7 9QW
Telephone +44(0)1458 210280
Fax None.
E-mail info@precisionenergetics.co.uk

1.4 Emergency telephone number

Emergency Phone No. +44(0)1458 210280
Contact Event Horizon Pyrotechnics Ltd
National response center
Address National Poisons Information Service (Birmingham Centre)
City Hospital
Dudley Road,
Birmingham, United Kingdom
111
Emergency Phone No.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP) Expl. 1.4 :Fire or projection hazard.

2.2 Label elements

Product Name Soft Detonators Lead Free.
Hazard Pictogram(s)



Signal Word(s) Warning
Hazard Statement(s) H204: Fire or projection hazard.
Precautionary Statement(s) P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240: Ground and bond container and receiving equipment.
P250: Do not subject to grinding/shock/friction.
P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P370+P380+P375: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P501: Dispose of contents in accordance with local, state or national legislation.

Additional Information

Explosive Product Notice
PREVENTION OF ACCIDENTS IN THE USE OF EXPLOSIVES - The prevention of accidents in the use of explosives is a result of careful planning and observance of the best known practices. The explosives user must remember that he is dealing with a powerful force and that various devices and methods have been developed to assist him in directing this force. He should realize that this force, if misdirected, may either kill or injure both him and his fellow workers.

2.3 Other hazards

None known.

2.4 Additional Information

WARNING - Use following consideration of the User Instructions. All explosives are dangerous and must be carefully handled and used following approved safety procedures either by or under the direction of competent, experienced persons in accordance with all applicable federal, state, and local laws, regulations, or ordinances. If you have any questions or doubts as to how to use any explosive



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product, DO NOT USE IT before consulting with your supervisor, or the manufacturer, if you do not have a supervisor. If your supervisor has any questions or doubts, he should consult the manufacturer before use.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Product as supplied: Article.
Polyurethane or Lacquered coated soft polyethylene tubes containing varying amounts of PETN. Detonators have wires for electrical ignition.

3.1 Substances

Not applicable.

3.2 Mixtures

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / REACH Registration No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
Pentaerythritol tetranitrate (P.E.T.N)	78-11-5	201-084-3 01-2119557827-23-XXXX	30 - 60	Unst. Expl. H200	GHS01

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact Wash hands and exposed skin after use.

Eye Contact Flush eyes with water for at least 15 minutes. Consult a physician.

Ingestion Unlikely route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

None anticipated.

4.3 Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media Water, Foam.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

Fire or projection hazard.
Highly explosive devices which can detonate any high explosive materials. Sensitive to friction, shock, heat and electric current/ electrostatic discharge. Radar and radio transmitters may set off non-shunted devices. Decomposes in a fire giving off toxic fumes: Oxides of carbon, Oxides of nitrogen.

5.3 Advice for firefighters

Evacuate area. DO NOT fight fire when fire reaches explosives. Fight fire remotely with normal precautions due to the risk of explosion. Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

It is unlikely to present spillage or leakage hazard. Anticipated release would only be from a damaged device.

6.1 Personal precautions, protective equipment and emergency procedures

Use non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses.

6.3 Methods and material for containment and cleaning up

Keep spilled material wet.
Large spillages: Consult the supplier for safe disposal of spillage waste and for decontamination of spillage area.

6.4 Reference to other sections

See Also Section 8, 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding/shock/friction. Store in accordance with local regulations. Ground and bond equipment and your person. Do not remove devices from protective package or open wire shunts until ready to use. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

7.2 Conditions for safe storage, including any incompatibilities

In accordance with local regulations. Do not store improperly with other explosives (severe physical injury or death may occur from detonation).



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Storage temperature Ambient.
 Storage life Stable under normal conditions.
 Incompatible materials Acids, Alkaline, Oxidizing agents, Storage cells.
7.3 Specific end use(s) Detonator.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
						None assigned

United Kingdom Workplace Exposure Limit (UK HSE EH40), 2020

8.2 Exposure controls

8.2.1. Appropriate engineering controls Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice.

8.2.2. Personal protection equipment



Eye Protection Wear protective eyewear (goggles, face shield, or safety glasses).



Skin protection Wear fire resistant or flame retardant clothing.



Respiratory protection No personal respiratory protective equipment normally required.



Thermal hazards Not applicable.

8.2.3. Environmental Exposure Controls Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance Article.
 Polyurethane or Lacquered coated soft polyethylene tubes containing varying amounts of PETN. Detonators have wires for electrical ignition
 Colour: Not available.

Odour Not available.
 Odour threshold Not established.
 pH Not applicable.
 Melting point/freezing point 140°C (284°F) (PETN)
 Initial boiling point and boiling range Not applicable.
 Flash Point Not applicable.
 Evaporation rate Not applicable.
 Flammability (solid, gas) Unstable explosives. (PETN)
 Upper/lower flammability or explosive limits Not applicable.
 Vapour pressure Not applicable.
 Vapour density Not applicable.
 Density (g/ml) Not available.
 Relative density 1.7 – 1.8 (Water = 1)
 Solubility(ies) Solubility (Water) : Slightly soluble. (PETN)
 Solubility (Other) : Not known.

Partition coefficient: n-octanol/water Not available.
 Auto-ignition temperature 210°C (410°F)
 Decomposition Temperature (°C) >150°C (PETN)
 Viscosity Not applicable.
 Explosive properties Fire or projection hazard.



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Oxidising properties Not oxidising.
9.2 Other information None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity Stable under normal conditions.
10.2 Chemical Stability Stable under normal conditions.
10.3 Possibility of hazardous reactions No hazardous reactions known if used for its intended purpose.
10.4 Conditions to avoid Avoid friction, sparks, or other means of ignition.
10.5 Incompatible materials Acids, Alkaline, Oxidizing agents, Storage cells.
10.6 Hazardous decomposition products No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity Low acute toxicity.
Skin corrosion/irritation Non-irritant.
Serious eye damage/irritation Non-irritant.
Skin sensitization data It is not a skin sensitiser.
Respiratory sensitization data Not classified.
Germ cell mutagenicity There is no evidence of mutagenic potential.
Carcinogenicity No evidence of carcinogenicity.
Reproductive toxicity Not classified.
Lactation Not classified.
STOT - single exposure None anticipated.
STOT - repeated exposure None anticipated.
Aspiration hazard None anticipated.
11.2 Other information None.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity - Aquatic invertebrates Low toxicity to invertebrates.
Toxicity - Fish Low toxicity to fish.
Toxicity - Algae Low toxicity to algae.
Toxicity - Sediment Compartment Not classified.
Toxicity - Terrestrial Compartment Not classified.
12.2 Persistence and Degradation Not applicable.
12.3 Bioaccumulative potential Not applicable.
12.4 Mobility in soil Article: Insoluble in water.
12.5 Results of PBT and vPvB assessment Not classified as PBT or vPvB.
12.6 Other adverse effects None.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Dispose of this material and its container to an approved waste disposal plant.
13.2 Additional Information Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number
UN No. 0255
14.2 UN proper shipping name
UN proper shipping name DETONATORS, ELECTRIC
14.3 Transport hazard class(es)
ADR/RID
ADR/RID Class 1



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ADR Classification Code	1.4B
Special Provisions	
Limited Quantities	
Excepted Quantities	E0
Emergency Action Code	
Mixed Packing Instructions for Packages	P131
Special Packing Provisions for Packages	
Mixed Packing Instructions for Packages	MP23
Packing Instructions for Portable Tanks	
Special Provisions for Portable Tanks	
Tank Code for Tanks	
Special Provisions for Tanks	
Vehicle for Tank Carriage	
ADR Transport Category	2
Tunnel Restriction Code	E
Special Provisions for Carriage - Packages	V2
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, Unloading and Handling	CV1 CV2 CV3
Special Provisions for Carriage - Operation	S1
ADR HIN	
IMDG	
IMDG Class	1.4B
Special Provisions	
Limited Quantities	
Excepted Quantities	E0
Mixed Packing Instructions for Packages	P131
Special Packing Provisions for Packages	
Packing Instructions for Portable Tanks	
Special Provisions for Portable Tanks	
IMDG EMS	F-B, S-X
Stowage and Handling	Category 05 SW1
Segregation	
Marine Pollutant	
ICAO/IATA	
IATA Proper Shipping Name	DETONATORS, ELECTRIC
Excepted Quantities	E0
Passenger and Cargo Aircraft Limited Quantities Packing Instructions	Forbidden for transport by air.
Passenger and Cargo Aircraft Limited Quantities Max net Qty	Forbidden for transport by air.
Passenger and Cargo Aircraft Packing Instructions	Forbidden on passenger aircraft.
Passenger and Cargo Aircraft Max net Qty	Forbidden on passenger aircraft.
Cargo Aircraft Packing Instructions	131
Cargo Aircraft Max net Qty	75Kg
Special Provisions	A802
Emergency Response Guidebook (ERG) Code	1L
Labels	
Labels	1.4
14.4 Packing group	
Packing group	None.
14.5 Environmental hazards	
Environmental hazards	Not classified as a Marine Pollutant.
14.6 Special precautions for user	
Special precautions for user	Not known.
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	
	No information available

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

European Regulations - Authorisations and/or Restrictions On Use
 Candidate List of Substances of Very High Concern - Not listed.



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High Concern for Authorisation
REACH: ANNEX XIV list of substances subject to authorisation Not listed.
REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not listed.
Community Rolling Action Plan (CoRAP) Not listed.
Regulation (EC) N° 850/2004 of the European Parliament and of the Council on persistent organic pollutants Not listed.
Regulation (EC) N° 2037/2000 on substances that deplete the ozone layer Not listed.
Regulation (EU) N° 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals Not listed.
National regulations
Wassergefährdungsklasse (Germany) Non-hazardous to water (nwg).
15.2 Chemical Safety Assessment
Not applicable.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 14, 15

LEGEND

Hazard Pictogram(s)



GHS01

Hazard classification

Unst. Expl. : Unstable explosives.

Hazard Statement(s)

H200: Unstable explosives.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234: Keep only in original packaging.
P240: Ground and bond container and receiving equipment.
P250: Do not subject to grinding/shock/friction.
P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P370+P380+P375: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P401: Store products enclosed, in original packing.
P501: Dispose of contents in accordance with local, state or national legislation.

Acronyms

ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS : Chemical Abstracts Service
CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL : Derived No Effect Level
EC : European Community
EINECS : European Inventory of Existing Commercial Chemical Substances
IATA : International Air Transport Association
IBC : Intermediate Bulk Container
ICAO : International Civil Aviation Organization
IMDG : International Maritime Dangerous Goods
LTEL : Long term exposure limit
PBT : Persistent, Bioaccumulative and Toxic
PNEC : Predicted No Effect Concentration
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals
RID : Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL : Short term exposure limit
STOT : Specific Target Organ Toxicity
UN : United Nations



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vPvB : very Persistent and very Bioaccumulative

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