

MAX-E Electronic Detonator



SAFETY DATA SHEET – INITIATION SYSTEMS

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Identifier:

Product Name: MAX-E Electronic Detonator

Other Means of Identification:

Synonyms: MAX-E, Electronic Detonator

Proper Shipping Name: Detonators, electric for blasting

Recommended Use of the Chemical and Restrictions on Use:

Recommended Use: Electronic detonator for use with MAX-E electronic initiation system to initiate explosive charge

Restrictions on Use: No information available

Supplier's Details:

Supplier's Name: Nitro Sibir Australia

Address: Suite 3, Level 1, 1 Puccini Court
Stirling WA 6021

Telephone: +61 8 9022 3821

Emergency Telephone Number:

Emergency Number: 1800 884 289 (all hours)

SDS Date: September 2021

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

Classified as hazardous according to Safe Work Australia: HAZARDOUS CHEMICAL.

Classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Explosives by Road and Rail: DANGEROUS GOODS.

GHS Label Elements, Including Precautionary Statements:

Explosives – Division 1.1

Signal Word: Danger



Exploding Bomb

Hazard Statement(s):

H201: Explosive; mass explosion hazard

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Precautionary Statement(s):

Prevention:

P210: Keep away from heat/sparks/open flames/surfaces - No Smoking.

P234: Keep only in original packaging.

P240: Ground/bond container and receiving equipment.

P250: Do not subject to grinding/shock/heat/friction/impact or electrical energy from external sources.

P280: Wear protective gloves, protective clothing, eye and face protection.

Response:

P370+P372+P380+P373: In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.

Storage:

P401: Store in a well-ventilated magazine licensed for Class 1.1B Explosives in accordance with Australian Standard AS2187.1

Disposal:

P501: Dispose of contents in accordance with national/regional/local regulations.

POISONS SCHEDULE (SUSMP): None allocated.

Other Hazards Which Do Not Result in Classification:

Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Proportion
PETN (Penaterythritol Tetranitrate)	78-11-5	<5%
Lead Azide	13424-46-9	<1%
Materials determined not to be hazardous	-	to <100%

4. FIRST AID MEASURES

Description of Necessary First Aid Measures:

General Advice: For advice, contact a doctor or Poisons Information Centre (131 126).

Inhalation: In case of inhalation of blasting fumes: Move the victim to fresh air while avoiding becoming a casualty. Loosen restrictive clothing and keep at rest until fully recovered. If breathing is difficult ensure airway is clear of any obstruction and allow a qualified person to administer oxygen through a face mask. Apply artificial respiration if patient is not breathing and seek immediate medical advice/attention.

Eye: Not an expected route of exposure.

Skin: Not an expected route of exposure. If irritation develops, seek medical advice/attention.

Ingestion: Not an expected route of exposure. If ingested, seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed:

Symptoms and Effects: No information available.



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Indication of Immediate Medical Attention and Special Treatment, if Necessary:

Information to Doctor: Detonator assemblies are explosives – handle with care. Shrapnel from detonation may cause wounds, burns and bruising. Explosive material contains lead – long term exposure to detonation fumes may result in lead poisoning.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable Extinguishing Media: DO NOT FIGHT FIRES involving explosives.

Unsuitable Extinguishing Media: Not applicable.

Specific Hazards Arising from the Chemical:

Specific Hazards: Explosive – may be ignited by heat, sparks or flames. May explode from friction or heat. Avoid stray currents.

Hazards from Combustion Products: Irritating or toxic fumes of lead, nitrogen and carbon may be produced under fire conditions. Yellow to brown fumes indicate the presence of toxic oxides of nitrogen.

Special Protective Actions for Fire Fighters:

Precautions and Special Protective Equipment: Explosive material. Avoid all ignition sources. Risk of explosion by shock, friction, fire or other sources of ignition. DO NOT FIGHT FIRES. A major fire may involve a risk of explosion. In case of small fire where the actual product is not involved, carefully remove explosives to a safe distance, otherwise immediately isolate area and evacuate personnel to a safe distance and allow to burn.

HAZCHEM CODE: E

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

For Non-Emergency Personnel: Prior to clean up of a spill, eliminate all sources of ignition. Clear the area of all personnel and evacuate to a safe area.

In the case of a transport accident notify the Police or FESA, Explosives Inspector and Nitro Sibir Australia.

For Emergency Personnel: Explosive material. Eliminate all sources of ignition. Surplus or defective explosives must not be placed in any waterway, buried, thrown away, discarded or placed with rubbish. Destruction of explosives must be carried out by suitably qualified personnel. In all cases, detonation is the preferred method of disposal.

Environmental Precautions:

Environmental Precautions: Contain the source and prevent the spread of the spill to ensure it does not contaminate drains and waterways.

Methods and Materials for Containment and Cleaning Up:

Methods for Containment: Prevent run off into drains and waterways. Clean up immediately.

Methods for Cleaning Up: Contain the spill and ensure that material does not enter any drains or waterways. Collect with non-metallic, anti-spark implements and place in properly labelled, clean, approved containers. Keep containers closed for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Advice for Safe Handling: Use the smallest possible amounts in designated areas with adequate ventilation. Handle with great care. DO NOT subject the material to impact, friction, heat or fire. Keep containers closed when not in use. No smoking.

General Hygiene Advice: Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and immediately after handling the product.

Conditions for Safe Storage Including any Incompatibilities:

Conditions for Safe Storage: Store between 5 and 25°C in a dry, well-ventilated place away from sources of heat, ignition and direct sunlight. Keep containers closed when not in use and securely seal and protect against physical damage.

Store in a cool, dry, well ventilated magazine suitably licenced for the appropriate classification. Keep storage area free of sources of shock, friction, heat, ignition and combustible materials. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for damage. Detonators should never be stored with explosives and must be stored separately in a detonator magazine or store. Do not attempt to disassemble.

Storage Incompatibilities: Incompatible with combustible materials and oxidising substances.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

Exposure Limits: No exposure value has been assigned to this material by Safe Work Australia, however for constituent(s) and decomposition product(s) according to SafeWork Australia Exposure Standards for Airborne Contaminants:

Lead, inorganic dusts & fumes (as Pb): 8hr TWA – 0.05mg/m³

TWA – 8-hour time-weighted average (TWA) means the maximum average airborne concentration of a substance when calculated over an eight-hour working day, for a five day working week.

Appropriate Engineering Controls:

Engineering Controls: Use in a well ventilated area. Keep products in the original packaging when not in use to prevent exposure to external stimuli.

Individual Protection Measures, such as Personal Protective Equipment (PPE):

Individual Protection Measures: A detailed and documented risk assessment must be carried out to determine minimum PPE requirements.

Wear protective safety boots and safety glasses at all times when handling and using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties and Safety Characteristics:

Physical State:	Solid, article
Colour:	Metallic
Odour:	Odourless
Odour Threshold:	Not applicable
Melting / Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flammability:	No data available
Lower / Upper explosion limit / flammability limit	No data available
Flash Point:	Not applicable
Auto-ignition temperature:	No data available
Decomposition Temperature:	No data available
pH:	Not applicable
Kinematic Viscosity:	Not applicable
Solubility:	Not soluble in water
Partition Coefficient:	Not applicable
Vapour Pressure:	Not applicable
Relative Density:	Not applicable
Vapour Density:	Not applicable
Particle Characteristics:	Not applicable
Explosive Properties:	Explosive; mass explosion hazard
Further Safety Characteristics:	No information available.

10. STABILITY AND REACTIVITY

Reactivity:

Explosive.

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Chemical Stability:

Stable under recommended conditions of storage. Extreme risk of explosion from shock, friction, fire or other sources of ignition.

Possibility of Hazardous Reactions:

Hazardous polymerisation will not occur. A major fire may involve the risk of explosion. An adjacent detonation may also involve the risk of explosive. Heating can cause expansion or decomposition of the material which can lead to containers exploding.

Conditions to Avoid:

Avoid exposure to heat, sources of ignition, open flame, shock and friction. Do not subject to grinding, shock or friction. Avoid contact with other chemicals. Protect from moisture. Do not attempt to disassemble.

Incompatible Materials:

Incompatible with combustible materials and oxidizing substances.

Hazardous Decomposition Products:

Thermal decomposition may result in the release of irritating and/or toxic fumes of nitrogen and carbon.

11. TOXICOLOGICAL INFORMATION

General Advice:

No adverse health effects are expected if the product is handled in accordance with this Safety Data Sheet and the product label.

Acute Toxicity:

There is no data for this product.

Information on Likely Routes of Exposure:

Skin corrosion / irritation: Not a likely route of exposure. Not expected to cause skin corrosion or irritation.

Serious eye damage / irritation: Not a likely route of exposure. Not expected to cause eye damage or irritation.

Respiratory or skin sensitisation: Initiation of product can lead to lead fume in the air in poorly ventilated areas.

Germ cell mutagenicity: This material is not classed as a mutagen.

Carcinogenicity: There is no information available for this product.

Reproductive toxicity: Not classified as a reproductive toxin.

Specific target organ toxicity (STOT): **Single exposure** – There is no available information for this product.

Specific target organ toxicity (STOT): **Repeated exposure** – There is no available information for this product.

Aspiration hazard: This material is not considered an aspiration hazard.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics:

Skin Contact: No information available.



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Inhalation: May cause irritation to mucous membranes and the respiratory tract.

Delayed and Immediate Effects and Also Chronic Effects from Short and Long Term Exposure:

Skin Contact: No information available.

Inhalation: No information available.

Numerical Measures of Toxicity:

No information available for product.

Constituent Information:

PETN (Pentaerythritol Tetranitrate): Oral LD50 – 1660mg/kg (rat)

LD50 (Lethal Dose) – the amount of a material, given all at once under control conditions, which causes the death of 50% (one half) of a large number of test animals.

Interactive Effects:

No information available.

Toxicological Data: No LD50 data available for this product. Exposure to explosive charge material is unlikely.

12. ECOLOGICAL INFORMATION

Exotoxicity:

Avoid contaminating waterways. Contains lead compounds which may be harmful to the environment. May cause long term adverse effects in the aquatic environment.

Persistence and Degradability:

There is no available information for this material.

Bioaccumulative Potential:

There is no available information for this material.

Mobility in soil:

There is no available information for this material.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Destruction of explosives must only be carried out by suitably qualified and licensed personnel. If necessary, the relevant Statutory Authorities must be notified. In all circumstances, detonation is the preferred method of disposal. Do not attempt to move detonators showing obvious signs of deterioration.

Small quantities of damaged or deteriorated explosives may be destroyed by inclusion in a blast hold containing good explosive material. For larger quantities or deteriorated product, contact a Nitro Sibir Australia representative for advice.

14. TRANSPORT CONSIDERATIONS

Road and Rail:

Classified as a Class 1 (Explosives) Dangerous Goods according to the Australian Code for the Transport of Explosives by Road and Rail.



UN Number: UN0030

Proper Shipping Name: DETONATORS, ELECTRIC for blasting

Transport Hazard Class: 1.1B

Packing Group: None assigned

Hazchem Code: E

Sea Transport:

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for Transport by Sea



UN Number: UN0030

Proper Shipping Name: DETONATORS, ELECTRIC for blasting

Transport Hazard Class: 1.1B

Packing Group: None assigned

Environmental hazards:

Not a known marine pollutant.

Air Transport:

Transport by air is prohibited under the International Air Transport Association (IATA) Dangerous Goods Regulations for Transport by Air.

Special Precautions for User:

Transport Information: Dangerous Goods of Class 1 (Explosives) are incompatible in a placard load with the following:

Class 2.1 – Flammable Gas

Class 2.2 – Non-flammable Non-toxic Gas

Class 2.3 – Toxic Gas

Class 3 – Flammable Liquid

Class 4.1 – Flammable Solid

Class 4.2 – Spontaneously Combustible Substance

Class 4.3 – Dangerous When Wet Substance

Class 5.1 – Oxidising Agent

Class 5.2 – Organic Peroxide

Class 6 – Toxic and Infectious Substance

Class 7 – Radioactive Substance

Class 8 – Corrosive

Class 9 – Miscellaneous Dangerous Goods

Fire Risk Substances



15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations Specific for the Product in Question:

Australia:

Classified as dangerous goods in accordance with the Australian Code of Practice for the Transport of Explosives by Road and Rail.

Classified as a hazardous chemical according to the criteria of SafeWork Australia.

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons. Not Scheduled.

All components of this material are listed on the Australian Inventory of Chemical Substances (AICS), or are exempt.

International Agreements:

This product is not subject to the Montreal Protocol on Substances that Deplete the Ozone Layer.

This product is not subject to the Stockholm Convention on Persistent Organic Pollutants.

This product is not subject to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

16. OTHER INFORMATION

Revision Date: September 2021

Reason(s) for Issue: Alignment to Safe Work Australia and GHS requirements.

Abbreviations used:

CAS No	Chemical Abstract Service number (chemical unique identifier)
EMS	Emergency Schedules (procedures for ships carrying dangerous goods)
g/cm ³	grams per cubic centimetre
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
LD50	Lethal Dose, 50%
pH	Scale of acidity from 0 (acidic) to 14 (alkaline), pH 7 is neutral
PPE	Personal Protective Equipment
Ppm	Parts per million
mg/m ³	Milligrams per cubic metre
STEL	Short-term Exposure Limit
STOT	Specific Target Organ Toxicity
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
TWA	Time Weighted Average

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