

# POLAR PX MAXISPLIT EDGE SERIES – POLAR PX, PXI

## SAFETY DATA SHEET – PACKAGED EXPLOSIVES



### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Identifier:**

**Product Name:** POLAR PX MAXISPLIT EDGE, POLAR PXI MAXISPLIT EDGE

**Other Means of Identification:**

**Synonyms:** POLAR PX MAXISPLIT EDGE SERIES, POLAR PX, POLAR PXI

**Proper Shipping Name:** Explosive, Blasting, Type E

**Recommended Use of the Chemical and Restrictions on Use:**

**Recommended Use:** Light charge used to preserve perimeter walls in open pits

**Restrictions on Use:** Only POLAR PXI MAXISPLIT EDGE is suitable for use in reactive ground

**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:** April 2023

### 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

Eye Irritation – Category 2A

Acute Toxicity (Oral) – Category 3

Acute Toxicity (Dermal) – Category 3

Acute Toxicity (Inhalation) – Category 3

Hazardous to the Aquatic Environment (chronic) – Category 2

Specific Target Organ Toxicity (repeated exposure) – Category 2

**Signal Word:** Danger



Exploding Bomb



Exclamation Mark



Skull and Crossbones



Health Hazard



Environment

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### **Hazard Statement(s):**

H201: Explosive; mass explosion hazard  
H319: Causes serious eye irritation  
H331: Toxic if inhaled  
H311: Toxic in contact with skin  
H301: Toxic if swallowed  
H373: May cause damage to organs through prolonged or repeated exposure  
H411: Toxic to aquatic life with long-lasting effects

### **Precautionary Statement(s):**

#### **Prevention:**

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking.  
P234: Keep only in original packaging.  
P250: Do not subject to grinding, shock, heat, friction, fire or other sources of ignition.  
P264: Wash hands thoroughly after handling.  
P280: Wear protective gloves, protective clothing, eye and face protection.  
P261: Avoid breathing dust/fume/vapours.  
P271: Use only outdoors or in a well-ventilated area.  
P270: Do not eat, drink or smoke when using this product.  
P273: Avoid release to the environment.  
P260: Do not breathe dust/fume/vapours.

#### **Response:**

P370+P372+P380+P373: In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313: If eye irritation persists: Get medical advice/attention.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311: Call a POISON CENTRE or doctor.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P312: Call a POISON CENTRE or doctor if you feel unwell.  
P361+P364: Take off immediately all contaminated clothing and wash it before reuse.  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.  
P330: Rinse mouth.  
P391: Collect spillage.  
P380: If exposed or concerned: Call a POISON CENTRE or doctor.

#### **Storage:**

P401: Store in accordance with Australian Standard AS2187.1 in a well-ventilated magazine licensed for Class 1.1D Explosives.  
P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.

#### **Disposal:**

P503: Refer to manufacturer or relevant competent authority for information on disposal, recovery and recycling.  
P501: Dispose of content/container in accordance with local/national regulations as applicable.

#### **Other Hazards Which do not Result in Classification:**

**POISONS SCHEDULE (SUSMP):** None allocated.

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### 3. Composition / Information on Ingredients

Ingredient	CAS	Proportion
<b>FOR CARTRIDGED WATERGEL:</b>		
Ammonium Nitrate	6484-52-2	30 - 60%
Monomethylamine Nitrate (MMAN)	22113-87-7	10 - 30%
Trinitrotoluene (TNT)	118-96-7	5 – 50%
Aluminium Powder (stabilised)	7429-90-5	< 10%
Oxidising Substances	-	< 10%
Expanded Polystyrene – EPS	9003-53-6	< 5%
Thiourea	62-56-6	< 0.5%
Materials determined not to be hazardous	-	to 100%
<b>FOR DETONATING CORD STRING:</b>		
Pentaerythritol tetranitrate (PETN)	78-11-5	10 g/m

### 4. First Aid Measures

#### **Description of Necessary First-Aid Measures:**

#### **General Advice:**

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

#### **Inhalation:**

If inhaled, remove from contaminated area. If symptoms develop, seek medical attention.

#### **Eye Contact:**

In eye contact occurs, wash with copious amounts of water holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. In all cases of eye contamination, it is sensible to seek medical advice and/or attention.

#### **Skin Contact:**

If contact with skin occurs, immediately remove any contaminated clothing and wash area thoroughly with soap and running water. Seek medical assistance if blistering occurs or redness persists.

#### **Ingestion:**

Immediately rinse mouth with water. If swallowed DO NOT induce vomiting. Seek immediate medical assistance

#### **Most Important Symptoms/Effects, Acute and Delayed:**

#### **Symptoms:**

Contact may cause redness and tearing of the eyes.

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### ***Indication of Immediate Medical Attention and Special Treatment, if necessary:***

#### **Information to Doctor:**

This product contains nitrates, which may be reduced to nitrites by intestinal bacteria. Nitrites may affect the blood (methaemoglobinemia) and blood vessels which may result in vasodilation and a fall in blood pressure.

Clinical findings: nitrates may have a smooth muscle relaxant effect – can cause headache, dizziness and marked hypotension. Effects peak within 30 minutes. Clinical signs of cyanosis appear before other symptoms because of the dark pigmentation of methaemoglobin.

Implement cardiac monitoring, especially in affected persons with coronary, artery or pulmonary disease.

Inhalation of decomposition products, possibly including oxides of nitrogen, may cause effects such as difficulty breathing, chest discomfort and pulmonary oedema, which may have a delayed onset. Exposed persons should be kept under medical observation for 24 hours.

## 5. FIRE FIGHTING MEASURES

### ***Suitable Extinguishing Media:***

Do NOT fight fires involving explosives. Evacuate the area immediately to a safe distance.

### ***Specific Hazards Arising from the Chemical:***

Dangerous when exposed to heat or flames. Can support combustion of other materials involved in fire and is capable of undergoing detonation if heated to high temperatures especially under confinement (including being piled on itself in a burning fire).

When heated to decomposition, highly toxic fumes may be emitted including oxides of carbon, oxides of nitrogen, ammonia and ammonium nitrate fumes.

### ***Special Protective Actions for Fire Fighters:***

Try to keep fire from reaching explosives. In case of small fire where the actual explosive is not involved, carefully remove explosives to a safe distance, otherwise evacuate area immediately and allow to burn. DO NOT FIGHT EXPLOSIVE FIRES.

**HAZCHEM CODE:** E

## 6. ACCIDENTAL RELEASE MEASURES

### ***Personal Precaution, Protective Equipment and Emergency Procedures:***

#### **For Non-Emergency Personnel:**

Prior to clean up of a spill, shut off all possible sources of ignition and ensure sufficient ventilation to any confined spaces. Clear the area of all unprotected personnel.

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

#### **For Emergency Responders:**

Explosive material. Shut off all possible ignition sources and isolate the area - clear all unprotected personnel. Wear protective equipment to prevent skin and eye contact. Avoid sources of heat, impact and friction. Ensure adequate ventilation.

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### **Environmental Precautions:**

Contain spills – prevent runoff into drains and waterways. Keep away from surface and ground water. Surplus or defective explosives must not be placed in any waterway, thrown away, discarded or placed with rubbish.

### **Methods and Materials for Containment and Cleaning Up:**

Small spills should be scooped up and placed in clean, approved containers that are then labelled and sealed. Use a spark-free shovel. Where possible, all residues should be scraped up for disposal and an inert absorbent material such as sand or vermiculite spread over the area.

For large spills, collect as much of the material as possible and place in clean, approved containers that are then labelled and sealed.

## 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. Avoid contact with oxidising materials. Have emergency equipment for fires, spills and leaks readily available. Keep containers closed when not in use. Wear appropriate protective equipment to prevent inhalation, and skin and eye contact.

Do not subject the product to any sources of impact, friction or any form of heating.

Use of this product by persons lacking adequate training, experience and supervision may result in injury or death.

#### **General hygiene advice:**

All who come into contact with this material must maintain high standards of personal hygiene, i.e. washing hands prior to eating, drinking, smoking or using toilet facilities.

### **Conditions for Safe Storage, Including any Incompatibilities:**

#### **Conditions for safe storage:**

Store in a cool, dry, well-ventilated magazine licenced for Class 1.1D explosives. 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 and spills. Always keep in containers made of the same material as the supply container. Have appropriate fire extinguishers available in and near the storage area. Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous. Reference should be made to AS2187.1- 1998 Explosives – Storage, transport and use – Storage, and to all state and federal regulations.

#### **Storage incompatibilities:**

Store away from strong acids, strong alkalis, chlorates, chlorides, nitrites and permanganates. Ammonium nitrate is not compatible with bromates, chlorate, chlorite, hypochlorite, chloroisocyanurate, dichloroisocyanuric acid, trichloroisocyanuric acid, tetranitromethane and inorganic nitrites.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### **Control Parameters:**

#### **Exposure Limits:**

No exposure value has been assigned to this material by Safe Work Australia.

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Substance	Note	15 min STEL		8 hr TWA	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Trinitrotoluene (TNT)	<b>Sk</b>	-	-	-	0.5

**TWA** (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

**STEL** (Short Time Exposure Limit): The average airborne concentration over a 15-minute period that should not be exceeded at any time during a normal eight-hour working day.

**Sk** (skin) Notice: Absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

### **Appropriate Engineering Controls:**

Use in a well-ventilated area. Ensure sufficient ventilation to keep airborne concentrations below exposure limits.

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

All personnel should be removed to a safe location and protected from air blast and fly rock during blasting operations.

The use of PPE should occur when other control measures have been found to be impracticable or when it's use is suitable in conjunction with one or more control measures. A formal risk assessment should be carried out to determine minimum PPE requirements.

Safety glasses with side shields, goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection should conform to Australian / New Zealand Standard AS/NZS 1337 – Eye Protectors for Industrial Applications.

Wear gloves of impervious material (PVC or neoprene). Final choice of gloves will vary according to individual circumstances. Reference should be made to Australian / New Zealand Standard AS/NZS 2616.1: – Occupational protective gloves – Selection, use and maintenance.

Protective boots and overalls (or long-sleeved shirt and long pants) should be worn for skin and body protection.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Continuous string of cartridged, plastic wrapped watergel material with detonating cord running internally through the length of the product. When the cartridge is perforated, the exposed product appears as a silver, foamed gel.
<b>Colour:</b>	Grey plastic cartridge wrapping for uninhibited product. Inhibited product will be designated by another colour.
<b>Odour:</b>	Slight fuel odour
<b>Melting Point:</b>	Not available
<b>Freezing Point:</b>	Not available

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<b>Boiling Point:</b>	Not available
<b>Flammability:</b>	Not available
<b>Explosion Limits:</b>	Not available
<b>Flash Point:</b>	Not applicable
<b>Auto-ignition Temp:</b>	Not available
<b>Decomposition Temp:</b>	Not available
<b>pH:</b>	4.5 – 6.0
<b>Kinematic Viscosity:</b>	Not applicable
<b>Solubility:</b>	Partially soluble (if cartridge film is split)
<b>Partition Coefficient:</b>	Not applicable
<b>Vapour Pressure:</b>	Not applicable
<b>Density:</b>	0.85 – 1.5 g/cm <sup>3</sup>
<b>Relative Vapour Pressure:</b>	Not applicable
<b>Particle Characteristics:</b>	Not applicable

## 10. STABILITY AND REACTIVITY

### **Reactivity:**

Explosive material. Reacts with incompatible materials.

### **Chemical Stability:**

Stable under normal conditions of storage and handling. Keep storage area free of sources of shock, friction, heat, ignition and combustible materials. Detonation may occur from heavy impact or excessive heating, particularly under confinement.

### **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 explosion. 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.

### **Incompatible Materials:**

Incompatible with strong acids and alkalis, solvents, reducing agents, amines, phosphorous, organic materials and compounds, finely divided combustible materials, finely divided metals and metal oxides. Ammonium nitrate is incompatible with tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromates, chlorates, chlorites, hypochlorite and inorganic nitrites.

### **Hazardous Decomposition Products:**

Thermal decomposition may result in the release of irritating and/or toxic fumes including oxides of nitrogen and carbon. May produce an irritating brown gas composed of nitrogen dioxide.

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### 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:**

Irritating to skin. Skin contact may cause redness, itching and irritation. Repeated or prolonged contact may cause dryness and cracking and may lead to irritant contact dermatitis.

**Serious eye damage / irritation:**

Exposure may cause irritation, tearing, stinging, blurred vision and redness.

**Respiratory or skin sensitisation:**

Exposure may cause irritation to the respiratory tract mucous membranes which may result in headaches, dizziness, drowsiness and nausea.

**Germ cell mutagenicity:**

This material is not classed as a mutagen.

**Carcinogenicity:**

There is no information available for this material.

**Reproductive toxicity:**

Not classified as a reproductive toxin.

**Specific target organ toxicity (STOT):**

**Single exposure** – There is no available information for this material.

**Specific target organ toxicity (STOT):**

**Repeated exposure** – There is no available information for this material.

**Aspiration hazard:**

This material is not considered an aspiration hazard.

**Symptoms Related to the Physical, Chemical and Toxicological Characteristics:****Skin Contact:**

Exposure may cause redness, itching and irritation.

**Inhalation:**

Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

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

Ammonium Nitrate can be absorbed through cut, burnt or broken skin and may cause dilation of blood vessels by direct smooth muscle relaxation and may cause methemoglobinemia.



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### **Carcinogenicity:**

No information available for product.

### **Numerical Measures of Toxicity:**

No information available for product.

### **Constituent Information:**

Trinitrotoluene (TNT): Oral LD50 – 1320mg/kg (male rat), 794 mg/kg (female 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.

## 12. ECOLOGICAL INFORMATION

### **Exotoxicity:**

No data available for the product. For component Ammonium Nitrate (evaluated at 5, 10, 25 and 50mg (NH<sub>4</sub><sup>+</sup>)/L:

Daphnia Magna fertility was decreased at 50mg/L.

Crustacea post embryonic growth was impaired at 10, 25 and 50mg/L

### **Persistence and Degradability:**

No data available for the product.

### **Bioaccumulative Potential:**

No data available for the product.

### **Mobility in soil:**

No data available for the product.

## 13. DISPOSAL CONSIDERATIONS

### **Disposal methods:**

Destruction of explosives must only be carried out by suitably qualified and licensed personnel. Disposal of material may be undertaken through a licensed waste contractor. If necessary, the relevant Statutory Authorities must be notified. In all circumstances, detonation is the preferred method of disposal.

Small quantities of damaged or deteriorated explosives may be destroyed by inclusion in a blast hole containing good explosive material. DO NOT insert detonators into defective explosives.

Personnel must be evacuated to a safe distance in accordance with relevant local regulations prior to initiation of the charge.

NOTE: Detonations in loose or stony ground may be expected to cause fly rock.

If assistance is required regarding the disposal of waste product, please contact a Nitro Sibir Australia representative.

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### 14. TRANSPORT CONSIDERATIONS



UN Number: UN0241

Proper Shipping Name: EXPLOSIVE, BLASTING, TYPE E

Transport Hazard Class: Classified as a Class 1 (Explosives) Dangerous Goods according to the Australian Code for the Transport of Explosives by Road and Rail 1.1D.

Classified as Class 1 (Explosives) Dangerous Goods according to the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for Transport by Sea.

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

Packing Group: II      Packing Instruction: P116

Not a marine pollutant according to the International Marine Dangerous Goods (IMDG) Code.

**Special Precautions for User:**

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

**HAZCHEM Code:**

E

### 15. REGULATORY INFORMATION

**Classification:**

Classified as Hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

**Hazard Category:**

Explosives – Division 1.1

Eye Irritation – Category 2A

Acute Toxicity (Oral) – Category 3

Acute Toxicity (Dermal) – Category 3

Acute Toxicity (Inhalation) – Category 3

Hazardous to the Aquatic Environment (chronic) – Category 2

Specific Target Organ Toxicity (repeated exposure) – Category 2

**Poisons Schedule:**

A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

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**Inventory Listing(s):** All components are listed on the Australian Inventory of Chemical Substances (AICS).

### 16. OTHER RELEVANT INFORMATION

**Revision Date:** April 2023

**Reason(s) for Issue:** New product.

**Literature References and Sources of Data:** SafeWork Australia Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals, July 2020

Globally Harmonized System of Classification and Labelling of Chemicals (GHS),  
Revision 7

SafeWork Australia Hazardous Chemicals Information System (HCIS)

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