

# POLAR PX SERIES – POLAR PX, PXI, PX PLUS

## SAFETY DATA SHEET – PACKAGED EXPLOSIVES



### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Supplier Name:</b>	NITRO SIBIR AUSTRALIA
<b>Address:</b>	Unit 218, 396 Scarborough Beach Road Osborne Park, WESTERN AUSTRALIA 6017
<b>Telephone:</b>	+61 417772219
<b>Fax:</b>	Not applicable
<b>Emergency:</b>	1800 884 289
<b>Synonyms:</b>	POLAR PX, POLAR PXI, POLAR PX PLUS
<b>Use:</b>	Packaged blasting agent used in the mining industry
<b>SDS Date:</b>	February, 2021
<b>TDS:</b>	Nitro Sibir TDS Ref: PE07 POLAR PX SERIES – PX, PXI, PX PLUS

### 2. Hazards Identification

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.

#### Classification of the Substance or Mixture:

Explosives – Division 1.1

Eye Irritation– Category 2A

**Signal Word:** Danger



*Explosion Bomb*



*Exclamation Mark*

#### Hazard Statement(s):

H201: Explosive; mass explosion hazard.

H319: Causes serious eye irritation.

#### 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.

##### Response:

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

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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.

### Storage:

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

### Disposal:

P503: Refer to manufacturer or relevant competent authority for information on disposal, recovery and recycling.

### Other Hazards:

AUH0AUH044: Risk of explosion if heated under confinement.

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

## 3. Composition / Information on Ingredients

Ingredient	CAS	Proportion
Ammonium Nitrate	6484-52-2	> 60%
Sodium Nitrate	7631-99-4	< 10%
Water	7732-18-5	< 10%
Aluminium Powder	7429-90-5	<10%
Mineral Oil	-	< 1.0%
Materials determined not to be hazardous	-	to 100%

## 4. First Aid Measures

For advice, contact a Poisons Information Centre (Australia 13 11 26) or a doctor.

<b>Eye:</b>	If 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.
<b>Inhalation:</b>	If inhaled, remove victim from contaminated area. Avoid becoming a casualty. Remove contaminated clothing and allow patient to assume a comfortable position. Keep warm. If breathing becomes difficult or a bluish discolouration of the skin develops, ensure airways are clear and have qualified person administer oxygen. Seek medical attention.
<b>Ingestion:</b>	Immediately rinse mouth with water. If swallowed DO NOT induce vomiting. Seek medical attention.
<b>Skin:</b>	Remove contaminated clothing and wash area thoroughly with soap and running water. Seek medical attention if blistering occurs or redness persists. Launder contaminated clothing before reuse.
<b>Symptoms Caused by Exposure:</b>	May cause methemoglobinemia. Symptoms of mild nitrate exposure may include headache, dizziness, confusion and cyanosis (blueness of the skin). Higher level

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exposure may lead to loss of consciousness, seizures, abnormal heart rhythms, coma and respiratory paralysis.

### Medical Attention and Special Treatment:

Treat symptomatically. If breathing is difficult, give oxygen. Observe blood pressure and treat hypotension if necessary. Spectrophotometric analysis can determine the presence and concentration of methaemoglobin in blood. Medical observation should be continued to detect any delayed onset of symptoms.

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media:

Do NOT fight fires involving explosives.

### Specific Hazards Arising from the Chemical:

Explosive material. DO NOT FIGHT EXPLOSIVE FIRES. 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, toxic fumes of carbon monoxide and carbon dioxide may be emitted. Brown fumes indicate the presence of toxic oxides of nitrogen.

Do NOT fight fires involving explosives. If a fire becomes established, immediately isolate area and evacuate personnel to at least 1600m – do not return until smoke and fumes have dissipated.

### Special Protective Equipment and Precautions 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. Fire-fighters to wear self-contained breathing apparatus in cases of risk of exposure to products of combustion.

### Other Information:

Explosives should not be abandoned at any location for any reason. Do not handle during electrical storms.

### HAZCHEM CODE:

E

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures:

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. Remove soiled clothing.

### 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.

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### 7. HANDLING AND STORAGE

**Precautions 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. 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.

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.

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

Ammonium nitrate is incompatible with tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromates, chlorates, chlorites, hypochlorite and inorganic nitrites. Avoid contamination of this material as it is very reactive and any contamination is potentially hazardous. Reference should be made to AS2187.1 Explosives – Storage, transport and use Part 1– Storage, and to all state and federal regulations.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**National Exposure Limits:** No exposure standards have been established for this material, however SafeWork exposure standards for constituents and products of decomposition:

Substance	15 min STEL		8 hr TWA	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Aluminium Powder (dust)	-	-	-	10
Nitrogen Dioxide	5	9.4	3	5.6
Oil Mist, refined mineral	-	-	-	5
Paraffin Wax (fume)	-	-	-	2

**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.

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<b>Engineering Controls:</b>	Use in a well-ventilated area. Ensure sufficient ventilation to keep airborne concentrations below exposure limits. All personnel should be removed to a safe location and protected from air blast and fly rock during blasting operations.
<b>Eye and Face Protection:</b>	Use safety glasses when handling and using this product. 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.
<b>Skin Protection:</b>	<p>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.</p> <p>Wear appropriate clothing such as a chemical resistant apron where clothing is likely to be contaminated. It is recommended that a local supplier of personal protective clothing is consulted regarding the choice of material.</p>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Explosive mixture packaged into plastic cartridges, sealed with metal clips at both ends
<b>Colour:</b>	Grey/silver to cream mixture
<b>Odour:</b>	Negligible
<b>Melting Point:</b>	Not available
<b>Freezing Point:</b>	Not available
<b>Boiling Point:</b>	Not applicable
<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>	Negligible
<b>Partition Coefficient:</b>	Not applicable
<b>Vapour Pressure:</b>	Not applicable
<b>Density:</b>	1.05 – 1.15 g/cm <sup>3</sup>
<b>Relative Vapour Pressure:</b>	Not applicable
<b>Particle Characteristics:</b>	Not applicable

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### 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	Explosive material.
<b>Chemical Stability:</b>	Explosive material. May detonate under conditions of excessive heat and confinement. Keep storage area free of sources of shock, friction, heat, ignition and combustible materials.
<b>Possibility of Hazardous Reactions:</b>	Explosion may result due to shock, friction, fire and sources of ignition particularly when the product is under confinement. Explosion creates the potential for shrapnel and projectiles. An adjacent explosion may also involve the risk of sympathetic detonation.
<b>Conditions to Avoid:</b>	Avoid exposure to heat, sources of ignition, open flame, shock and friction.
<b>Chemical Incompatibility:</b>	Incompatible with other chemicals. Avoid contact with other explosives, pyrotechnics, solvents, acids, alkalis, reducing agents, amines, phosphorous, organic materials / 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.
<b>Hazardous Decomposition Products:</b>	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.

### 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity:</b>	No data available for the actual product. The construction of this product should prevent any chemical contamination. No adverse health effects are expected if the product is handled in accordance with this Safety Data Sheet.
<b>Skin Corrosion / Irritation:</b>	Exposure may cause redness, itching and irritation.
<b>Serious Eye Damage / Irritation:</b>	Eye irritant. Exposure may cause serious eye irritation, tearing, stinging, blurred vision and redness.
<b>Respiratory or Skin Sensitisation:</b>	Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.
<b>Germ Cell Mutagenicity:</b>	No data available.
<b>Carcinogenicity:</b>	No data available.
<b>Reproductive Toxicity:</b>	No data available.
<b>STOT – Single Exposure:</b>	No data available.
<b>STOT – Repeated Exposure:</b>	No data available.
<b>Aspiration Hazard:</b>	No data available.

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<b>Possible Routes of Exposure:</b>	<p>Ingestion – swallowing may can result in nausea, vomiting, diarrhoea and abdominal pain. Ingestion of large amounts may result in headaches, dizziness and hypotension.</p> <p>Eye Contact – a serious eye irritant.</p> <p>Skin Contact – may result in irritation. Possible degreasing action on the skin. Repeated or prolonged skin contact may result in irritant contact dermatitis. Can be absorbed through broken skin with adverse effects and may cause methaemoglobinaemia.</p> <p>Inhalation – Detonation may produce toxic oxides of carbon and nitrogen which may be an irritant to the mucous membranes of the respiratory tract, and possibly result in chest discomfort, difficulty breathing and pulmonary oedema.</p>
<b>Early Onset Symptoms Related to Exposure:</b>	<p>May cause methemoglobinemia. Symptoms of mild nitrate exposure may include headache, dizziness, confusion and cyanosis (blueness of the skin). Higher level exposure may lead to loss of consciousness, seizures, abnormal heart rhythms, coma and respiratory paralysis.</p>
<b>Delayed Health Effects From Exposure:</b>	<p>Effects from exposure to nitrogen dioxide can include pulmonary oedema, the onset of which may be delayed.</p>
<b>Exposure Levels and Health Effects:</b>	<p>In case of exposure to ammonium nitrate, the smooth muscle relaxant effect of nitrate salts may lead to methemoglobinemia. Methaemoglobin concentrations of 30-40% may cause symptoms such as headache, dizziness and weakness. Concentrations of approximately 60% may cause stupor, convulsions, coma and respiratory paralysis.</p>

## 12. ECOLOGICAL INFORMATION

<b>Exotoxicity:</b>	<p>No data available for this product. For component Ammonium Nitrate (evaluated at 5, 10, 25 and 50mg (NH<sub>4</sub><sup>+</sup>)/L:</p> <p>Daphnia Magna fertility was decreased at 50mg/L.</p> <p>Crustacea post embryonic growth was impaired at 10, 25 and 50mg/L.</p>
<b>Persistence and Degradability:</b>	<p>No data available for this product.</p>
<b>Bioaccumulative Potential:</b>	<p>No data available for this product.</p>
<b>Mobility in Soil:</b>	<p>No data available for this product.</p>
<b>Other Adverse Effects:</b>	<p>No data available for this product.</p>

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal Methods:</b>	<p>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.</p> <p>The explosives to be destroyed must be placed in direct contact with fresh priming charge in a hole and then adequately stemmed. DO NOT insert detonators into defective explosives.</p>
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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.

### 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 and by 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: None assigned.

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



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

### 16. OTHER RELEVANT INFORMATION

- Revision Date:** February 2020
- 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)
- SafeWork Australia Hazardous Chemicals Information System (HCIS)

*The information contained in this SDS is believed to be accurate and has been obtained from sources considered reliable. Users of this information should make their own investigations to determine the suitability of the information for their particular use or situation. NITRO SIBIR AUSTRALIA does not in any way warrant or imply the applicability, viability or use of this information to any person, for use in any situation.*

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