

# POLAR Bulk Inhibited Emulsion SXI & UXI



## SAFETY DATA SHEET – BULK EXPLOSIVES

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	POLAR Bulk Inhibited Emulsion Blends (SXI & UXI Series)
<b>Other Identification:</b>	POLAR Surface: SXI, POLAR Underground: UXI, AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid.
<b>Recommended Use and Restrictions on Use:</b>	<p>For use as a bulk blasting explosive in surface and underground mining operations where reactive ground conditions exist.</p> <p>This material is listed as Security Sensitive Ammonium Nitrate (SSAN) according to the Australian National Code of Practice for Chemicals of Security Concern and is subject to state and territory regulations.</p>
<b>Supplier Name:</b>	NITRO SIBIR AUSTRALIA
<b>Address:</b>	Suite 3, Level 1 1 Puccini Court Stirling, WESTERN AUSTRALIA 6430
<b>Telephone:</b>	+61 417772219
<b>Emergency Phone:</b>	1800 884 289
<b>SDS Date:</b>	February, 2020
<b>TDS:</b>	Nitro Sibir TDS Ref: BE03 POLAR Bulk Emulsion SXI & UXI

### 2. HAZARD(S) IDENTIFICATION

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

Classified as Dangerous Goods according to the criteria of the Australian Dangerous Goods Code: DANGEROUS GOODS.

**Classification of the Substance or Mixture:**

Oxidising liquids – Category 2

Eye Irritation – Category 2A

Carcinogenicity – Category 2

**Signal Word:** Danger



*Flame Over Circle*



*Exclamation Mark*



*Health Hazard*

**Hazard Statement(s):**

H272: May intensify fire; oxidiser

H319: Causes serious eye irritation

H351: Suspected of causing cancer

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### Precautionary Statement(s):

#### Prevention:

- P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P210: Keep away from heat/sparks/open flames/surfaces - No Smoking.  
P220: Keep/store away from clothing/combustible materials.  
P221: Take any precaution to avoid mixing with combustibles.  
P264: Wash hands thoroughly after handling.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P281: Use personal protective equipment as required.

#### Response:

- P305+P351+P338: IF IN EYES: Rinse carefully with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313: If eye irritation persists: Get medical attention.  
P308+P313: IF exposed or concerned: Get medical attention.  
P370+P378: In case of fire: Use water to extinguish if small and isolated. Refer to Section 5 of this Safety Data Sheet to extinguish.

#### Storage:

- P405: Store locked up.

#### Disposal:

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

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

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient	CAS	Proportion
Ammonium Nitrate	6484-52-2	>60%
Fuels, diesel	68334-30-5	<10%
Mineral Oil	8012-95-1	<10%
Urea	57-13-6	<10%
Materials determined not to be hazardous	-	10 - <30%

## 4. FIRST AID MEASURES

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

#### Inhalation:

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 or the patient develops a bluish tinge of the lips and/or skin, 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.

#### Eye:

In case of eye contact, remove any contact lenses and flush immediately with plenty of water, also under the eyelids, for at least 15 minutes.

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	DO NOT apply any eye ointments or preparations. As with all eye contamination, it is a sensible precaution to seek medical advice.
<b>Skin:</b>	If contact with skin or hair occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If irritation develops, seek medical attention. Nitrates can be absorbed through cut, burnt and broken skin. Launder contaminated clothing prior to re-use.
<b>Ingestion:</b>	Immediately rinse mouth with water. If swallowed DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical assistance. For further advice, call the Poisons Information Centre on 131126.
<b>Indication of immediate medical attention required:</b>	Treat symptomatically. May cause methaemoglobinemia. Exposure to nitrates may cause a smooth muscle relaxant effect - may lead to headache, dizziness, weakness and marked hypotension. Cyanosis is clinically detectable when approximately 15% of the haemoglobin has been converted to methaemoglobin.
<b>Special treatment required:</b>	Treat as for exposure to nitrates. Support respiratory and cardiovascular function. Observe blood pressure and treat hypotension if necessary.

## 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media:</b>	By its nature, the material is not combustible however if it is involved in fire, extinguish with coarse water spray in large quantities.
<b>Unsuitable Extinguishing Media:</b>	Smothering agents are not effective as extinguishing methods in the case of oxidizing agents. Dry agents such as carbon dioxide and dry chemical powder are unsuitable – DO NOT USE.
<b>Hazards from Combustion Products:</b>	Irritating or toxic fumes may be produced under fire conditions. Yellow to brown fumes indicate the presence of toxic oxides of nitrogen.
<b>Precautions for Fire Fighters and Special Protective Equipment:</b>	Oxidising substance. Nitrates will support the combustion of other materials. Evacuate ALL personnel to a safe location. Irritating and toxic vapours may be produced - breathing apparatus operating in positive pressure mode should be used. Full protective clothing should be worn. Fires may be fought from a protected location. Keep containers and adjacent areas cool with water spray. If safe to do so, remove containers from the path of fire. In the case of a major fire, the substance may burn to explosion under certain conditions. If safe to do so, prevent the molten product from entering drains and waterways.
<b>HAZCHEM CODE:</b>	1Y

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	<p>Prior to clean up of a spill, shut off all possible sources of ignition and ensure sufficient ventilation to any confined spaces. Wear chemical resistant gloves, protective clothing, mask and safety glasses to prevent skin and eye contact and inhalation of vapours. Clear the area of all unprotected personnel.</p> <p>Caution: material can be very hot and contact may result in thermal burns. Product is slippery when spilt.</p>
<b>Emergency Procedures:</b>	Shut off all possible ignition sources. Clear area of all unprotected personnel. In the case of a transport accident notify the Police or FESA, Explosives Inspector and Nitro Sibir Australia.

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<b>Spillage:</b>	Clean up immediately with a non-combustible material eg. vermiculite or sand, to soak up the product. With a clean shovel, collect and seal material into properly labelled containers for disposal. Wash area down with copious amounts of water and ensure contaminated material is thoroughly washed. This material is classified as Security Sensitive Ammonium Nitrate (SSAN). Spillage recovery requires appropriate documentation and material to be accurately accounted for.
<b>Environmental Precautions:</b>	Contain the source and prevent the spread of the spill to ensure it does not contaminate drains and waterways. Do not flush into surface water or sanitary sewer systems. If contamination of drains or waterways occurs, advise the local emergency services.

## 7. HANDLING AND STORAGE

<b>Precautions for Safe Handling:</b>	<p>Handle with great care. Avoid skin and eye contact. Avoid all contact with other chemicals. Do not subject the product to impact, friction between hard surfaces or any form of heating. Use personal protective equipment.</p> <p>Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and immediately after handling the product.</p> <p>Keep away from sources of ignition - No smoking. Do not use in areas without adequate ventilation.</p>
<b>Conditions for Safe Storage Including any Incompatibilities:</b>	<p>Do not store together with strong acids, strong alkalis, nitrates, chlorates, chlorites and permanganates. 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.</p> <p>Product deterioration is a process of gradual crystallisation of the ammonium nitrate and a thickening of the emulsion. If heated for long periods the emulsion may separate. Product that has deteriorated badly is unsuitable for use.</p> <p>Ammonium nitrate must be stored securely in accordance with regulations and controls issued by the relevant authority. All persons with unsupervised access to Security Sensitive Ammonium Nitrate (SSAN) in Australia must obtain security clearances through the relevant state or territory authority.</p>

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Exposure Limits:</b>	<p>No exposure value has been assigned to this material by Safe Work Australia. Exposure Standard(s) for constituent(s) and decomposition product(s):</p> <p>As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants -</p> <p><b>Oil mist</b>, refined mineral: 8hr TWA = 5 mg/m<sup>3</sup></p> <p><b>Nitrogen dioxide</b>: 8hr TWA = 5.6 mg/m<sup>3</sup> (3 ppm), 15 min STEL = 9.4 mg/m<sup>3</sup> (5 ppm)</p> <p>As published by the American Conference of Governmental Industrial Hygienists (ACGIH) -</p> <p><b>Fuels, diesel</b>: 100 mg/m<sup>3</sup>, SKIN (total hydrocarbons, inhalable) for 8hr TWA</p> <p><b>TWA</b> – The time-weighted average airborne concentration of a particular substance when calculated over a normal eight-hour working day.</p>
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**SKIN** (ACGIH) – the 'SKIN' designation refers to the potential significant contribution to the overall exposure by cutaneous route, including mucous membranes and eyes, from exposure to gases or liquids or by direct skin contact.

**STEL** (Short Term Exposure Limit) – the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes.

<b>Biological Monitoring:</b>	None listed.
<b>Control Banding:</b>	None listed.
<b>Engineering Controls:</b>	Use only in a well-ventilated area or an area equipped with appropriate exhaust ventilation. Ensure that eyewash stations and safety showers are close to the workstation.
<b>Individual Protection Measures:</b>	<p>Conduct a detailed risk assessment and select PPE in accordance with the work being undertaken. Consider location of the work, ventilation, form and temperature of the product, environmental factors and handling method.</p> <p>Wear safety glasses at all times. Chemical resistant, elbow-length impervious gloves should be worn when there is direct contact with the product. Use with adequate ventilation. If an inhalation risk is present, wear half-face filter respirator suitable for organic vapours. Wash contaminated clothing and other PPE prior to storage or re-use.</p>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Viscous liquid, gel
<b>Odour:</b>	Negligible odour
<b>Odour Threshold:</b>	No data available
<b>pH:</b>	No data available
<b>Melting / Freezing Point:</b>	No data available
<b>Initial Boiling Point and Boiling Range:</b>	No data available
<b>Flash Point:</b>	Not applicable
<b>Evaporation Rate:</b>	Not applicable
<b>Flammability:</b>	No data available
<b>Vapour Pressure:</b>	No data available
<b>Vapour Density:</b>	No data available
<b>Relative Density:</b>	1.2 - 1.4 g/cc @ 20°C
<b>Solubility:</b>	Negligible
<b>Partition Coefficient:</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition Temperature:</b>	No data available

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<b>Viscosity:</b>	60 000 - 100 000 cps
<b>Upper / Lower Flammability or Explosive Limits:</b>	No data available

### 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	Oxidising agent. Reactive with acids, alkalis and reducing agents. Avoid contact with combustible materials. Can explode if subjected to intense heat or impact. Will detonate if suitably primed.
<b>Chemical Stability:</b>	Oxidising agent. Avoid contact with combustible substances. Stable at normal ambient temperature and pressure. Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions:</b>	Oxidising agent. Supports combustion of other materials and increases intensity of a fire. A major fire may involve a risk of explosion, especially when under confinement. An adjacent detonation may also involve the risk of explosion. Thermal decomposition may produce fumes and toxic oxides of nitrogen.
<b>Conditions to Avoid:</b>	Store in isolation to prevent cross-contamination, and away from sources of heat, ignition and open flame. Avoid contact with combustible material.
<b>Incompatible Materials:</b>	Incompatible with strong acids, strong alkalis, non-ferrous materials, combustible materials, nitrites, chlorates, chlorides, permanganates, organic substances and oxidising agents.
<b>Hazardous Decomposition Products:</b>	Nitrogen oxides and carbon oxides. When heated to decomposition (unconfined) ammonium nitrate produces nitrous oxide, white ammonium nitrate fumes and water. When mixed with strong acids, and occasionally during blasting, will produce an irritating toxic brown gas, mostly of nitrogen dioxide. When molten, shock or pressure may cause violent decomposition.

### 11. TOXICOLOGICAL INFORMATION

The product itself has not been tested for toxicological effects. When handled in accordance with the guidelines in this Safety Data Sheet, ammonium nitrate emulsion should not present any adverse health effects.

<b>Acute Toxicity:</b>	No data is available for the product. For the constituent AMMONIUM NITRATE: Oral LD50 (rat) – 2217 mg/kg
<b>Skin Corrosion / Irritation:</b>	Contact with skin may result in irritation. May have a degreasing effect on the skin. Repeated or prolonged contact may lead to irritant contact dermatitis.
<b>Serious Eye Damage / Irritation:</b>	Contact with eyes will cause irritation.
<b>Respiratory or Skin Sensitisation:</b>	Breathing in vapour may irritate the mucous membranes of the respiratory tract causing possible headaches, dizziness, drowsiness and nausea.
<b>Germ Cell Mutagenicity:</b>	No data available.



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<b>Carcinogenicity:</b>	No data is available for the product. For the constituent DIESEL – suspected of causing cancer. Diesel fuel is a classified hazardous chemical according to Safe Work Australia.
<b>Reproductive Toxicity:</b>	No data available.
<b>Specific Target Organ Toxicity (STOT) – Single Exposure:</b>	No data available.
<b>Specific Target Organ Toxicity (STOT) - Repeated Exposure:</b>	No data available.
<b>Aspiration Hazard:</b>	No data available.
<b>Other Information on Acute Toxicity:</b>	No data available.

## 12. ECOLOGICAL INFORMATION

<b>Exotoxicity:</b>	<p>The mixture itself has not been tested for aquatic toxicity or other ecotoxicological effects, and therefore the classification of the mixture is based on the classification of the individual components.</p> <p><b>Ammonium Nitrate</b> was evaluated at 5, 10, 25 and 50 mg (NH<sub>4</sub><sup>+</sup>)/L. The fertility of <i>Daphnia magna</i> was decreased at 50 mg/L. Post embryonic growth of crustacea was impaired at 10, 25 and 50 mg/L.</p> <p><b>Diesel</b> spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer may be impaired.</p>
<b>Persistence and Degradability:</b>	No data available.
<b>Bioaccumulative Potential:</b>	No data is available for the product itself. Ammonium Nitrate has low potential for bioaccumulation (based on substance properties).
<b>Mobility in Soil:</b>	No data available.
<b>Other Adverse Effects:</b>	No data available.

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal Methods:</b>	<p>Dispose of this material in accordance with State, Territory and site regulations. All requirements of AS2187 must be adhered to. Destruction of explosives must be carried out by suitably qualified personnel.</p> <p>As this material is listed as Security Sensitive Ammonium Nitrate (SSAN) according to the Australian National Code of Practice for Chemicals of Security Concern, disposal of material needs to be appropriately documented with material accurately accounted for.</p> <p>Quantities of damaged or deteriorated product may be disposed of by reworking through the manufacture process, by inclusion in a waste blast, or by using the services of a licensed waste contractor. Advice for specific situations can be obtained by contacting Nitro Sibir Australia.</p>
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### 14. TRANSPORT INFORMATION

#### Road and Rail:

This product is classified as Dangerous Goods by the criteria of the Australian Code for the Transport of Explosives by Road and Rail.



<b>UN Number:</b>	UN3375
<b>Proper Shipping Name:</b>	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid
<b>Hazard Class:</b>	5.1 Oxidizing Agent
<b>HAZCHEM Code:</b>	1Y
<b>Packing Group:</b>	II

#### Marine Transport:

This product is classified as Dangerous Goods by the criteria of the International Marine Dangerous Goods Code (IMDG Code) for transport by sea.



<b>UN Number:</b>	UN3375
<b>Proper Shipping Name:</b>	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid
<b>Hazard Class:</b>	5.1 Oxidizing Agent
<b>Packing Group:</b>	II
<b>IMDG EMS Fire:</b>	F-H
<b>IMDG EMS Spill:</b>	S-Q

#### Air Transport:

Transport of this product is prohibited under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger aircraft and cargo aircraft.

### 15. REGULATORY INFORMATION

**Classification:** Classified as Hazardous according to the criteria of Safe Work Australia.

**Classification of the Mixture:** Oxidising liquids – Category 2.  
Eye Irritation – Category 2A  
Carcinogenicity – Category 2

**Hazard Statement(s):** H272: May intensify fire; oxidiser  
H319: Causes serious eye irritation  
H351: Suspected of causing cancer

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

**AICS:** All of the constituents of this material are listed on the Australian Inventory of chemical Substances (AICS).



### 16. OTHER RELEVANT INFORMATION

**Revision Date:** February 2020

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

**References:** Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code)  
Australian National Code of Practice for Chemicals of Security Concern  
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)  
National Drugs & Poisons Scheduling Committee (NDPSC) - Standard for the Uniform Scheduling of Medicines and Poisons  
Regulation on Classification, Labelling and Packaging of Substances and Mixtures: Regulation (EC) No 1272/2008 (CLP)  
Safe Work Australia: Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, February 2016

*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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