

# POLAR Bulk Emulsion Explosive SX & UX



## SAFETY DATA SHEET – BULK EXPLOSIVES

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	POLAR Bulk Emulsion Explosive Blends (SX & UX Series)
<b>Other Identification:</b>	POLAR Surface: SX, POLAR Underground: UX, AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid.
<b>Recommended Use:</b>	For use as a blasting explosive in surface and underground mining operations.
<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>Emergency:</b>	1800 884 289
<b>SDS Date:</b>	March, 2017
<b>TDS:</b>	Nitro Sibir TDS Ref: BE02 POLAR Bulk Emulsion SX & UX

### 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

#### 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.

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### 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%
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. DO NOT apply any eye ointments or preparations. As with all eye contamination, it is a sensible precaution to seek medical advice.

**Skin:** 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.

**Ingestion:** 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.

**Advice to Doctor:** Support respiratory and cardiovascular function. Treat symptomatically. Nitrates have a smooth muscle relaxant effect - may lead to headache, dizziness and marked hypotension. May cause methaemoglobinemia.

### 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>	Dry agents such as carbon dioxide and dry chemical powder are unsuitable.
<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. Fires may be fought from a protected location. The substance may burn to explosion under certain conditions. Irritating and toxic vapours may be produced - breathing apparatus operating in positive pressure mode should be used. Full protective clothing should be worn. Prevent the molten product from entering drains and waterways.
<b>HAZCHEM CODE:</b>	1Y

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	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. Caution: material can be very hot and contact may result in thermal burns. Product is slippery when spilt.
<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.
<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>	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.
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Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and immediately after handling the product. Keep away from sources of ignition - No smoking. Do not use in areas without adequate ventilation.

### Conditions for Safe Storage Including any Incompatibilities:

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. 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.

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 authority.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Exposure Limits:</b>	No exposure value has been assigned to this material by Safe Work Australia.
<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>	No data available

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<b>Evaporation Rate:</b>	No data available
<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
<b>Solubility:</b>	Water: 1183 g/L (20°C); 8450 g/L (100°C) Fat (solvent - oil to be specified) partly soluble (benzene, chloroform)
<b>Partition Coefficient:</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition Temperature:</b>	No data available
<b>Viscosity:</b>	60 000 - 100 000 cps
<b>Oxidising Properties:</b>	Oxidising Agent

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	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>	Stable at normal ambient temperature and pressure. Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions:</b>	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 and fire. 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, may decompose violently due to shock or pressure.

## 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.
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<b>Skin Corrosion / Irritation:</b>	No data is available.
<b>Serious Eye Damage / Irritation:</b>	No data is available.
<b>Respiratory or Skin Sensitisation:</b>	No data is available.
<b>Germ Cell Mutagenicity:</b>	No data is available.
<b>Carcinogenicity:</b>	No data is available.
<b>Reproductive Toxicity:</b>	No data is available.
<b>Specific Target Organ Toxicity (STOT) - Single Exposure:</b>	No data is available.
<b>Specific Target Organ Toxicity (STOT) - Repeated Exposure:</b>	No data is available.
<b>Aspiration Hazard:</b>	No data is available.
<b>Other Information on Acute Toxicity:</b>	No data is 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>
<b>Persistence and Degradability:</b>	No data is 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 is available for the product itself. Ammonium Nitrate has low potential for bioaccumulation (based on substance properties).
<b>Other Adverse Effects:</b>	No data is available.
<b>Environmental Protection:</b>	Avoid contaminating drains and waterways.

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal Methods:</b>	Dispose of this material in accordance with Federal, State and site regulations. All requirements of AS2187 must be adhered to.
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Destruction of explosives must be carried out by suitably qualified personnel.

Small volumes may be disposed of / destroyed by dilution in water jets and/or detergent solution.

Larger amounts of the 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.

## 14. TRANSPORT INFORMATION

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
<b>Environmental Hazards:</b>	Avoid release to the environment.
<b>Special Precautions:</b>	Use personal protective equipment.
<b>Additional Information:</b>	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

<b>Classification:</b>	Oxidising liquids – Category 2. Eye Irritation – Category 2A Carcinogenicity – Category 2 Classified as Hazardous according to the criteria of Safe Work Australia.
<b>Hazard Statement(s):</b>	H272: May intensify fire; oxidiser H319: Causes serious eye irritation H351: Suspected of causing cancer
<b>Poisons Schedule:</b>	Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons. Not Scheduled.
<b>AICS:</b>	All of the constituents of this material are listed on the Australian Inventory of chemical Substances (AICS).



### 16. OTHER RELEVANT INFORMATION

<b>Revision Date:</b>	March 2017
<b>Reason(s) for Issue:</b>	Changes to Safe Work Australia's requirements for Safety Data Sheets to align with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) requirements.
<b>References:</b>	<p>Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code)</p> <p>National Drugs &amp; Poisons Scheduling Committee (NDPSC) - Standard for the Uniform Scheduling of Medicines and Poisons</p> <p>Regulation on Classification, Labelling and Packaging of Substances and Mixtures: Regulation (EC) No 1272/2008 (CLP)</p> <p>Safe Work Australia: Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, February 2016</p>
<b>Classification Procedure:</b>	The mixture classification has been derived based on the classification of the individual components in accordance with the rules set out in Regulation (EC) No 1272/2008 (CLP) as well as the translation tables in Annex VII to the same regulation.

*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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