

POLAR QSX Bulk Emulsion Blends



SAFETY DATA SHEET – BULK EXPLOSIVES

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Identifier:

Product Name: POLAR QSX Bulk Emulsion Blends

Other Means of Identification:

Synonyms: POLAR QSX ANFO Blends, POLAR QSX Gassed ANFO Blends

Proper Shipping Name: EXPLOSIVE, BLASTING, TYPE E

Recommended Use of the Chemical and Restrictions on Use:

Recommended Use: Blasting explosive for surface mining operations

Restrictions on Use: Not for use in reactive ground.
Restricted to use only by authorised professionals.

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: July 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 Damage / Irritation – Category 2A

Carcinogenicity - Category 2

Signal Word: DANGER



Explosion Bomb



Health Hazard



Exclamation Mark

Hazard Statement(s):

H201: Explosive; mass explosion hazard

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.
- P234: Keep only in original packaging.
- P250: Do not subject to grinding/shock/friction.
- P264: Wash hands thoroughly after handling.
- P280: Wear face protection/protective clothing/eye protection.

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 so. Continue rinsing.
- P337+P313: If eye irritation persists: Get medical advice/attention.
- P308+P313: IF exposed or concerned: Get medical advice/attention.

Storage:

- P401: Store in a well-ventilated magazine licensed for Class 1.1D Explosives in accordance with Australian Standard AS2187.1.
- P405: Store locked up.

Disposal:

- P503: Refer to manufacturer/supplier for information on disposal/recovery/recycling.
- P501: Dispose of contents/container in accordance with national/regional/local regulations.

POISONS SCHEDULE (SUSMP): None allocated.

Other Hazards Which Do Not Result in Classification:

Harmful to aquatic life with long lasting effects.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS No	EC Number	Proportion
Ammonium Nitrate	6484-52-2	229-347-8	35 to 80%
Fuel, diesel (gasoil – unspecified)	68334-30-5	269-822-7	<3%
Non-hazardous Ingredients	Not Available	Not Available	Remainder

4. FIRST AID MEASURES

Description of Necessary First-Aid Measures:

- General Advice:** Eye wash facilities and safety shower should be available.
- Inhalation:** If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing.
- Eye Contact:** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or at least for 15 minutes.



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Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

Ingestion: For advice, contact a Poisons Information Centre on 131 126 (Australia wide) or a doctor (at once). If swallowed, do not induce vomiting. Rinse mouth with water.

Most Important Symptoms/Effects, Acute and Delayed:

Symptoms: Serious damage may result from explosive fragments.

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

Information to Doctor: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable Extinguishing Media: Do NOT fight fires involving explosives. Evacuate the area immediately. Notify trained emergency response personnel.

Unsuitable Extinguishing Media: Not applicable – DO NOT fight fires involving explosives.

Specific Hazards Arising from the Chemical:

Specific Hazards: EXPLOSIVE. Will explode under specific conditions. Eliminate all ignition sources including cigarettes, open flames, spark producing switches / tools, heaters, naked lights, pilot lights, etc when handling. CAUTION: will explode if exposed to heat or with heavy impact.

Hazards from Combustion Products: May evolve toxic gases (carbon / nitrogen oxides, hydrocarbons) when heated to decomposition.

Special Protective Actions for Fire Fighters:

Precautions and Special Protective Equipment: Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Do not attempt to fight fire. Use waterfog to cool intact containers and nearby storage areas. May explode from heat, pressure, friction or shock.

HAZCHEM CODE: E – Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

Personal Precaution, Protective Equipment and Emergency Procedures:

For Non-Emergency Personnel: Clear the area of all unprotected personnel. Shut off all possible ignition sources.

For Emergency Personnel: Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. CAUTION: heating, impact or static charge may cause explosion.

Environmental Precautions:

Environmental Precautions: Prevent product from entering drains and waterways

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Methods and Materials for Containment and Cleaning Up:

Methods for Containment:	Contain spillage, collect and place in suitable containers for disposal in accordance with AS2187.2. Eliminate all sources of ignition.
Methods for Cleaning Up:	Explosive material. Do not clean up or dispose of except under supervision of a specialist.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Advice for safe handling: Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. Take precautionary measures against electrostatic discharges.

General hygiene advice: Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for Safe Storage, Including any Incompatibilities:

Conditions for safe storage: Store in clean, well ventilated and dry magazine licensed for Class 1 Explosives. Ensure magazines are adequately labelled and protected from physical damage / shock or friction.

Storage incompatibilities: Segregate from all incompatible substances and foodstuffs.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

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

Biological Limits:

Ingredient	Determinant	Sampling Time	BEI
Ammonium Nitrate	Methemoglobin in blood	During or end of shift	1.5% of haemoglobin

Reference: ACGIH Biological Exposure Indices

Appropriate Engineering Controls:

Engineering Controls: Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended.

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

Individual Protection Measures:	Eye / Face	Wear safety glasses
	Hands	Wear PVC or rubber gloves
	Body	Wear coveralls
	Respiratory	Not required under normal conditions of use.



9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties and Safety Characteristics:

Physical State:	Solid.
Colour:	Brown to pink.
Odour:	Slight odour.
Melting/Freezing Point:	Not available.
Boiling Point/Boiling Range:	Not available.
Flammability:	Explosive.
Lower and Upper Explosion Limit:	Not relevant.
Flash Point:	Not applicable.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
pH:	Not applicable.
Kinematic Viscosity:	Not applicable.
Solubility (water):	Insoluble.
Partition Coefficient:	Not applicable.
Vapour Pressure:	Not applicable.
Relative Density:	0.65 – 1.15 g/cm ³
Relative Vapour Density:	Not applicable.
Particle Characteristics:	Not available.
Explosive Properties:	Explosive.
Further Safety Characteristics:	Not available.

10. STABILITY AND REACTIVITY

Reactivity:

Explosive material. Detonation may occur from heavy impact or excessive heating, particularly under confinement.

Chemical Stability:

Potential for exothermic hazard.

Possibility of Hazardous Reactions:

Polymerisation will not occur.

Conditions to Avoid:

Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

Incompatible Materials:

May detonate if heated strongly or exposed to severe shock. Incompatible (explosively) with acids (eg. nitric acid), metal powders, combustible materials, alkalis (eg. sodium hydroxide), oxidising agents (eg. hypochlorites), chloride salts, sulphur, urea, nitrates and reducing agents.

Hazardous Decomposition Products:

May evolve toxic gases (carbon / nitrogen oxides, hydrocarbons) when heated to decomposition.

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:

Based on available data, the classification criteria are not met. **WARNING:** May explode with shock, heat, friction or static charge. Serious damage may result from explosive fragments.

Information on Likely Routes of Exposure:

Skin corrosion / irritation:	Contact may result in irritation, redness, rash and dermatitis.
Serious eye damage / irritation:	Contact may result in lacrimation, pain, blurred vision and redness.
Respiratory or skin sensitisation:	Not classified as causing skin or respiratory sensitisation.
Germ cell mutagenicity:	Not classified as a mutagen.
Carcinogenicity:	Suspected of causing cancer.
Reproductive toxicity:	Not classified as a reproductive toxin.
Specific target organ toxicity (STOT):	Single exposure – Over exposure may result in irritation of the nose and throat, coughing, nausea and headache. High level exposure may result in drowsiness, breathing difficulties and methaemoglobinemia (blood's oxygen-carrying capacity is reduced).

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Specific target organ toxicity (STOT): **Repeated exposure** – Not classified as causing organ damage from repeated exposure.

Aspiration hazard: Not classified as causing aspiration.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics:

Skin Contact: Prolonged skin contact may defat the skin and cause irritant contact dermatitis. Can be absorbed through cut, broken or burnt skin with resultant adverse effects.

Inhalation: May be irritant to the mucous membranes of the respiratory tract. Inhaling vapour may result in headache, dizziness, drowsiness and nausea.

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.

Carcinogenicity: Suspected of causing cancer.

Numerical Measures of Toxicity:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium Nitrate	2217 mg/kg (rat)	>5000 mg/kg (rat)	-
Fuels, Diesel (Gasoil – unspecified)	7500 mg/kg (rat)	-	-

Interactive Effects:

No information available.

12. ECOLOGICAL INFORMATION

Exotoxicity:

No information provided.

Persistence and Degradability:

No information provided.

Bioaccumulative Potential:

No information provided.

Mobility in soil:

No information provided.

Other adverse effects:

Ammonium nitrate is a nutrient in water. Spills can cause massive algal blooms in static waters and affect local species population balance in the aquatic environment. If water is used to disperse nitrate spilled on soil, the solution produced can end up in the groundwater. Ammonium nitrate will be taken up by bacteria. Nitrate is more persistent in water than the ammonium ion.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Waste must be disposed of in accordance with AS2187.2 as well as state regulatory and environmental legislation. Small quantities of damaged or deteriorated material may be destroyed by inclusion in a blast hole containing good explosives (by licensed personnel). Detonators should not be inserted into defective explosives. For large quantities, contact the manufacturer / supplier for additional information.

14. TRANSPORT CONSIDERATIONS

Road and Rail:

Classified as a dangerous good by the criteria of the Australian Dangerous Goods Code (ADG Code) - Class 1 (Explosives)



UN Number: UN0241

Proper Shipping Name: EXPLOSIVE, BLASTING, TYPE E

Transport Hazard Class: 1.1D

Packing Group: None allocated

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: UN0241

Proper Shipping Name: EXPLOSIVE, BLASTING, TYPE E

Transport Hazard Class: 1.1D

Packing Group: None allocated

Air transport:

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

Environmental hazards:

Not a known marine pollutant.

IMDG EMS Fire:

F-B

IMDG EMS Spill:

S-X

Special precautions for user:

In the event of a transport emergency, treat as an explosive, Class 1.1D, with mass explosion hazard. Refer to Section 6 of this SDS.

15. REGULATORY INFORMATION

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

Australia:

Classified as dangerous goods in accordance with the Australian Dangerous Goods Code (ADG Code).

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 Industrial Chemicals (AIIC), 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.

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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:	July, 2023
Reason(s) for Issue:	Minor changes to formatting
Abbreviations used:	<p>ACGIH American Conference of Governmental Industrial Hygienists CAS No Chemical Abstract Service number – used to uniquely identify chemical compounds CNS Central Nervous System EC No. European Community Number EMS Emergency Schedules (procedures for ships carrying dangerous goods) g/cm³ grams per cubic centimetre GHS Globally Harmonised System of Classification and Labelling of Chemicals GTEPG Group Text Emergency Procedure Guide IARC International Agency for Research on Cancer LC50 Lethal Concentration, 50% / Median Lethal Concentration LD50 Lethal Dose, 50% / Median Lethal Dose mg/m³ Milligrams per cubic metre OEL Occupational Exposure Limit pH Scale of acidity from 0 (acidic) to 14 (alkaline), pH 7 is neutral PPE Personal Protective Equipment ppm Parts per million STEL Short-term Exposure Limit STOT-RE Specific Target Organ Toxicity (Repeated Exposure) STOT-SE Specific Target Organ Toxicity (Single Exposure) SUSMP Standard for the Uniform Scheduling of Medicines and Poisons SWA Safe Work Australia TLV Threshold Limit Value TWA Time Weighted Average</p>
Key Literature References and Sources of Data:	<p>Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Hazardous Chemical Information System: Safe Work Australia National Drugs & Poisons Schedule Committee (NDPSC): Standard for the Uniform Scheduling of Medicines and Poisons National Institute for Occupational Safety and Health Preparation of Safety Data Sheets for Hazardous Chemicals: Safe Work Australia Workplace Exposure Standards for Airborne Contaminants: Safe Work Australia</p>

Additional Information:

Disclaimer: The information provided herein concern explosive products which should only be handled by persons having the appropriate technical expertise, training and licence(s). The result is largely dependent upon the conditions of storage, transportation and use.

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Explosives and Blasting Agents: Refer to local, state and federal legislation that specifically relates to the use of explosives. Users of products described in this report are advised to ensure familiarity and compliance with the appropriate legal requirements prior to the use of this product. Where any further information is required, users may contact their local authority in explosives and dangerous goods.

Explosions: Fires involving explosives or explosive mixtures may undergo further explosions and rapid propagation. Police and emergency personnel should be notified immediately. Evacuate individuals to a safe sheltered area and if possible remove vehicles and further heat and ignition sources from the area. Consult with emergency services to determine evacuation distance and suitable re-entry time.

Personal Protective Equipment Guidelines: The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Health Effects from Exposure: It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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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