

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** AQUAMAX® SERIES PRODUCTS 200, 200D, 800, 1200, 1600, 1700, 9000  
**Synonyms** AQUAMAX® SERIES EMULSION & EMULSION ANFO BLEND, PUMPED OR AUGURED PRODUCT, WET HOLE PRODUCT, EXPLOSIVE, BLASTING, TYPE E

### 1.2 Uses and uses advised against

**Uses** EXPLOSIVES  
Normally used as a bulk explosive in mining and quarrying.

### 1.3 Details of the supplier of the product

**Supplier name** DOWNER EDI MINING - BLASTING SERVICES PTY LIMITED  
**Address** 22 Cordelia Street, South Brisbane, QLD, 4101, AUSTRALIA  
**Telephone** (07) 3026 6666  
**Fax** (07) 3026 6070  
**Website** <http://www.downergroup.com>

### 1.4 Emergency telephone numbers

**Emergency** 1800 680 402

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classifications** Explosives: Division 1.1  
Acute Toxicity: Oral: Category 4  
Acute Toxicity: Skin: Category 4  
Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A

### 2.2 Label elements

**Signal word** DANGER

**Pictograms**



### Hazard statements

H201 Explosive; mass explosion hazard.  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

**Prevention statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P230	Keep wetted.
P240	Ground/bond container and receiving equipment.
P250	Do not subject to grinding/shock/friction/rough handling.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment is advised - see first aid instructions.
P330	Rinse mouth.
P332 + P337 + P313	If skin or eye irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before re-use.
P370 + P380	In case of fire: Evacuate area.
P372	Explosion risk in case of fire.
P373	DO NOT fight fire when fire reaches explosives.

**Storage statements**

P401	Store in accordance with relevant site and storage provisions.
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**Disposal statements**

P501	Dispose of contents/container in accordance with relevant regulations.
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**2.3 Other hazards**

EXPLOSIVE HAZARD: Can detonate with severe impact or by heat or flame if confined. Keep away from heat sparks and avoid contact with combustible materials. Avoid shock and friction.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS****3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
AMMONIUM NITRATE	6484-52-2	229-347-8	35 to 95%
FUELS, DIESEL (GASOIL - UNSPECIFIED)	68334-30-5	269-822-7	<10%
AMMONIUM NITRATE EMULSION (HEAT)	-	-	50 to 99.5%
LUBRICATING OILS, PETROLEUM, HYDROTREATED SPENT	64742-58-1	265-161-3	<5%
SENSITISERS	-	-	<1%

**4. FIRST AID MEASURES****4.1 Description of first aid measures**

<b>Eye</b>	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 for at least 15 minutes.
<b>Inhalation</b>	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.
<b>Skin</b>	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.
<b>Ingestion</b>	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities and safety shower are recommended.

**4.2 Most important symptoms and effects, both acute and delayed**

Over exposure can cause nausea, vomiting, flushing of face and neck, headache, weakness, faintness and collapse. Severe over exposure may interfere with the ability of the blood to carry oxygen (methaemoglobinemia). This can cause headache, weakness, fatigue, dizziness and a blue colour to skin and lips. Higher levels may cause trouble breathing, collapse and even death.

#### **4.3 Immediate medical attention and special treatment needed**

Treat symptomatically. Explosive material. Shrapnel from detonation may cause burns, wounds and bruises - treat symptomatically.

Treatment for nitrates:

1. Give 100% oxygen.
2. In cases of (a) ingestion: use gastric lavage, (b) contamination of skin (unburnt or burnt): continue washing to remove salts.
3. Observe blood pressure and treat hypotension if necessary.
4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 to 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not resolved within one hour a second dose of 2 mg/kg body weight may be given. The total dose should not exceed 7 mg/kg body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
5. Bed rest is required for methaemoglobin levels in excess of 40%.
6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
7. Consider transfer to centre where haemoperfusion can be performed to remove the nitrates from the blood if the condition of the patient is unstable.
8. Following inhalation of oxides of nitrogen the patient should be observed in hospital for 24 hours for delayed onset of pulmonary oedema.

Further observation for 2-3 weeks may be required to detect the onset of the inflammatory changes of bronchiolitis fibrosa obliterans. Support respiratory and cardiovascular function. Treat symptomatically and as for exposure to nitrates. Over exposure may lead to methaemoglobinemia. Nitrates have a smooth muscle relaxant effect potentially resulting in hypotension.

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## **5. FIRE FIGHTING MEASURES**

### **5.1 Extinguishing media**

DO NOT attempt to extinguish burning explosives. Evacuate area immediately. Notify trained emergency response personnel.

### **5.2 Special hazards arising from the substance or mixture**

EXPLOSIVE. Will explode under specific conditions. May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition. 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.

### **5.3 Advice for firefighters**

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.

### **5.4 Hazchem code**

E Evacuation of people in and around the immediate vicinity of the incident should be considered.

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## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

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.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Explosive Material. Do not clean-up or dispose except under supervision of a specialist. Contain spillage, then cover / absorb spill with NON-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal in accordance with AS2187.2. Eliminate all sources of ignition.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

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## **7. HANDLING AND STORAGE**

### **7.1 Precautions 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.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in clean, well ventilated and dry magazine licensed for Class 1 Explosives. Segregate from all incompatible substances and foodstuffs. Ensure magazines are adequately labelled and protected from physical damage/shock or friction.

**7.3 Specific end uses**

No information provided.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Diesel fuel (ACGIH)	SWA (AUS)	--	100	--	--
Mineral Oil Mist	SWA (AUS)	--	5	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**PPE**

- Eye / Face** Wear safety glasses.
- Hands** Wear PVA or neoprene gloves.
- Body** Wear safety boots and coveralls.
- Respiratory** Wear appropriate respirator when ventilation is inadequate.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE TO PINK AMMONIUM NITRATE PRILL & EMULSION MIXTURE
<b>Odour</b>	SLIGHT DIESEL ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	1.5 to 6.5 (1 % solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.90 to 1.35
<b>Solubility (water)</b>	SLIGHTLY SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	> 100°C
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	EXPLOSIVE; mass explosion hazard
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Potential for exothermic hazard.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

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

**10.5 Incompatible materials**

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

**10.6 Hazardous decomposition products**

May evolve carbon and nitrogen oxides when heated to decomposition.

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**11. TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects**

**Acute toxicity** Harmful if swallowed or in contact with skin.

**Information available for the ingredients:**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
AMMONIUM NITRATE	2950 mg/kg (rat)	> 5000 mg/kg (rat)	--
FUELS, DIESEL (GASOIL - UNSPECIFIED)	7500 mg/kg (rat)	--	--

**Skin** Irritating to the skin. Contact may result in irritation, redness, rash and dermatitis.

**Eye** Irritating to the eyes. Contact may result in irritation, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure can cause nausea, vomiting, flushing of face and neck, headache, weakness, faintness and collapse. Severe over exposure may interfere with the ability of the blood to carry oxygen (methaemoglobinemia). This can cause headache, weakness, fatigue, dizziness and a blue colour to skin and lips. Higher levels may cause trouble breathing, collapse and even death. **WARNING:** May explode with shock, heat, friction or static charge.

**STOT - repeated exposure** Repeated exposure to decomposition products may result in blood or respiratory disease.

**Aspiration** Not classified as causing aspiration.

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**12. ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

AQUATIC: Nitrates are nutrient in water. Spills may cause massive algae blooms in static water and affect local species population balance in the aquatic environment. Avoid contaminating waterways.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

**Waste disposal** 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.

**Legislation** Dispose of in accordance with relevant local legislation.

### 14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	0241	0241	PROH
<b>14.2 Proper Shipping Name</b>	EXPLOSIVE, BLASTING, TYPE E	EXPLOSIVE, BLASTING, TYPE E	Air transport PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger and cargo aircraft.
<b>14.3 Transport hazard class</b>	1.1D	1.1D	None allocated.
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

#### 14.5 Environmental hazards

Not a Marine Pollutant

#### 14.6 Special precautions for user

**Hazchem code** E  
**EMS** F-B, S-X

**Other information** Air Transport Prohibited under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in passenger aircraft and cargo aircraft.

The product is classed as Dangerous Good Class 1.1D with UN number of 0241 in NSW & Qld. The product is classed as a Dangerous Good Class 1.5D with UN number of 0332 in WA.

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** E Explosive  
 Xi Irritant  
 Xn Harmful

**Risk phrases** R2 Risk of explosion by shock, friction, fire or other sources of ignition.  
 R21/22 Harmful in contact with skin and if swallowed.  
 R36/38 Irritating to eyes and skin.

**PRODUCT NAME AQUAMAX® SERIES PRODUCTS 200, 200D, 800, 1200, 1600, 1700, 9000**

<b>Safety phrases</b>	S2	Keep out of reach of children.
	S15	Keep away from heat.
	S16	Keep away from sources of ignition - No smoking.
	S17	Keep away from combustible material.
	S20/21	When using, do not eat, drink or smoke.
	S24/25	Avoid contact with skin and eyes.
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
	S29	Do not empty into drains.
	S35	This material and its container must be disposed of in a safe way.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S41	In case of fire and/or explosion, do not breathe fumes.	
<b>Inventory listings</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.	

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## 16. OTHER INFORMATION

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<b>Additional information</b>	<p><b>EXPLOSIVES &amp; BLASTING AGENTS:</b> Refer to Local State and Federal legislation that specifically relates to the use of Explosives. Users of products described in this ChemAlert Report are advised to ensure familiarity and compliance with the appropriate legal requirements (e.g. Regulations) prior to the use of this product. Where any further information is required, users may contact their local authority in Explosives and Dangerous Goods.</p> <p><b>EXPLOSIONS:</b> 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 at least 800 metres away. If possible remove vehicles and further heat and ignition sources from the area. Do not return to areas until at least one hour after fire and explosions have ceased.</p> <p><b>EXPLOSIONS:</b> For further information please refer to Australian Standard 1216, for classification of explosives and Local and Federal Explosive and Dangerous Goods legislation (Act and Regulations).</p> <p><b>EXPLOSIVES - BURNING SAFETY:</b> Note: Disposal in a blast with fresh explosives may be preferable to burning. (a) Make a sawdust (or newspaper) trail 450mm wide and ~20mm deep in the direction of the wind. The trail should be 2m longer than necessary. (b) Place the cartridges on the sawdust (or paper), they may be touching, but not piled on top of each other (c) Individual trails should be no closer than 2m and should not contain more than 12kgs of explosives. (d) Trails should be side by side, not in a line. No more than 4 should be set up at one time. (e) Remove explosives not being burnt, to at least 300m away, unless the material can be stored behind something substantial. (f) Thoroughly wet the trail with kerosene or diesel (never petrol or any other highly flammable liquid). Use at least 2L of fuel per 10m of trail. (g) Light the trail from a long rolled paper wick, place down wind and contact the 2m of trail which is not covered by explosives. The flame should blow away from the unburned explosives otherwise preheating and detonation may occur. (g) Use a plastic igniter if available instead of paper. Coil one end into the sawdust or under the paper and light the other end from a minimum distance of 7m away from the trail. (h) Move away at least 300m. Do not return for a period of at least 30mins after burning has finished. (j) If the fire goes out, do not approach for at least 15mins. Do not add kerosene or diesel oil unless certain that the flame is completely extinguished. (k) Bury the residue as it is poisonous to livestock.</p> <p><b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> 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.</p>
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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.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
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/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
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

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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