

Infosafe No.	LPU93	Issue Date : June 2007	ISSUED by DYNONOB
Product Name	TITAN® BLASTLITE®		

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	TITAN BLASTLITE
Company Name	Dyno Nobel Asia Pacific Limited
Address	Level 20, 111 Pacific Highway North Sydney NSW 2060
Emergency Tel.	1800 098 836
Telephone/Fax Number	Tel: +61 2 9968 9000 Fax: +61 2 9964 0170
Recommended Use	Titan BlastLite is an inhibited low density heavy ANFO (ANE/ANFO blend) product designed for use in reactive ground such as pyritic shales where standard products cannot be used.

2. HAZARDS IDENTIFICATION

Hazard Classification	DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE. Dangerous goods classification according to the Australian Dangerous Goods Code. Hazard classification according to the criteria of NOHSC.
Risk Phrase(s)	R2 Risk of explosion by shock, friction, fire or other sources of ignition.
Safety Phrase(s)	S34 Avoid shock and friction. S35 This material and its container must be disposed of in a safe way.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Ammonium Nitrate	6484-52-2	60-90 %
	Ingredients determined not to be hazardous		Balance

4. FIRST AID MEASURES

Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If symptoms develop seek medical attention.
Ingestion	If swallowed, do NOT induce vomiting. Wash out mouth with water. If symptoms develop seek medical attention.
Skin	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
First Aid Facilities	Eye wash and normal washroom facilities.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	If the product ignites then mass cooling by heavy dousing with water should effectively extinguish small fires. When large quantities are involved in massive fires, control efforts should be confined to protecting from explosion.
Hazards from Combustion Products	Poisonous gases are produced in fire, including nitrogen oxides and carbon oxides.
Specific Hazards	May explode in fires. Supports combustion of common organic fuels.
Hazchem Code	E

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Precautions in connection with Fire Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
DO NOT FIGHT LARGE FIRES. If a fire becomes established immediately isolate area and evacuate personnel to a safe distance.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Evacuate area of all non-essential personnel. Ensure no sources of ignition or heat. Ensure good ventilation. Contain the source and spread of the spill and ensure that the material does not enter any waterways or drains. Collect as much of the material as possible and place in clean, approved containers which are then labelled and sealed. Surplus or defective explosives must not be placed in any waterway, thrown away, discarded or placed with rubbish. If large quantities of this material enter the waterways contact the Environmental Protection Authority, or your local Waste Management Authority. Contaminated bulk product recovered from a spill should be passed through a 10mm screen before pumping. The screened material should then only be pumped using a double diaphragm positive displacement pump.
Destruction of explosives must be carried out by suitably licensed personnel.

7. HANDLING AND STORAGE

Precautions for Safe Handling DO NOT subject the product to impact, friction or heating. Do not drill into the explosive. Have appropriate fire extinguishers available in and near the storage area. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Wear appropriate protective equipment to prevent inhalation, skin and eye contact. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet.

Conditions for Safe Storage Store in a cool, dry, well-ventilated area, out of direct sunlight and moisture. Store in labelled containers. Keep containers tightly closed. Store away from water and incompatible materials. Have appropriate fire extinguishers available in and near the storage area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure standards have been established for this material by the National Occupational Health And Safety Commission (NOHSC).

Biological Limit Values No Biological limit available.

Engineering Controls Use with good general ventilation. If dusts are produced local exhaust ventilation should be used. Do not enter any area where accumulations of these gases are suspected without appropriate breathing apparatus.

Respiratory Protection If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

Eye Protection Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

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Hand Protection Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection Suitable work wear should be worn to protect personal clothing, eg cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Brown fibrous material with small white spheres.

Odour Not available.

Melting Point Not applicable.

Boiling Point Not applicable.

Solubility in Water Soluble.

Specific Gravity 0.57

pH Value Not applicable.

Vapour Pressure Not applicable.

Vapour Density (Air=1) Not applicable.

Flash Point Not applicable.

Auto-Ignition Temperature Not applicable.

Flammable Limits - Lower Not applicable.

Flammable Limits - Upper Not applicable.

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions. If heated strongly, may decomposes, giving off toxic gases and gases which support combustion.

Conditions to Avoid Keep away from heat, flame, ignition sources, strong shock and electrical impulse. Do not attempt to disassemble.

Incompatible Materials Separate from acids, alkalies, reducing agents, and combustible materials.

Hazardous Decomposition Products Detonation produces hazardous overpressures and fragments (if confined). Gases produced may contain carbon oxides and nitrogen oxides.

Hazardous Reactions May react with acids, alkalies, reducing agents, and combustible materials. This substance will accelerate burning when involved in a fire and may decompose explosively when heated.

Hazardous Polymerization Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information LD50(Oral, rat): 3782mg/kg

Inhalation Inhalation of product vapours or powders may cause irritation of the nose, throat and respiratory system.

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Ingestion	Ingestion of substantial amounts may result in cyanosis, nausea, collapse, vomiting, abdominal pain, rapid heartbeat and breathing, coma convulsions and death may occur.
Skin	May cause redness, itching and irritation.
Eye	May cause eye irritation, tearing, stinging, blurred vision, and redness.
Chronic Effects	Severe overexposure to ammonium nitrate may interfere with the ability of the blood to carry oxygen (methemoglobinemia). This can cause headache, weakness, fatigue, dizziness and a blue colour to the skin and lips. Higher levels may cause trouble in breathing, collapse and even death. Prolonged, repeated skin contact with mineral oils may cause irritant contact dermatitis.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not available.
Persistence / Degradability	Not available.
Mobility	Not available.
Environ. Protection	Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

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Disposal Considerations

Destruction of explosives must be carried out by suitably qualified personnel. If necessary, the relevant statutory authorities must be notified. In all circumstances, detonation is the preferred method disposal. The explosives to be destroyed must be placed in direct contact with fresh priming charge in a hole and then adequately stemmed. No detonators are to be inserted into defective explosives. 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.

BURNING:

Burning may result in the detonation of explosives. Burning explosives produces toxic fumes eg. oxides of nitrogen and carbon.

Make a sawdust bed or trail adequate for the quantity of explosives to be burned approximately 400mm wide and 40mm deep, upon which the explosive will be laid.

If sawdust is not available, newspaper may be used. Normal precautions should be taken against the spread of fire.

Individual trails should not be closer together than 600mm and should contain not more than 12kg of explosive.

Trails should be side-by-side, not in a line, and not more than four should be set up at one time.

Remove any explosive that is not to be burnt to a distance of at least 300m. Sufficient diesel oil (never petrol or other highly flammable liquid) should be used to thoroughly wet the sawdust (or paper). At least 4L per trail is recommended.

Light the trail from a long rolled paper 'wick' which should be placed downwind and in contact with the 1m of trail which is not covered with explosive.

The wind should blow so that the flame from the wick (and later from the burning explosives) will blow away from the unburned explosives as detonation is more likely to occur if the explosives are preheated by the flame.

If plastic igniter cord (slow) is available, its use for lighting is recommended instead of paper. One end should be coiled into or under the paper and the other end lit from a minimum distance of 7m from the trail. Retire to at least 300m or to a safe place.

Do not return to the site for at least 30 min after the burning has apparently finished.

If the fire goes out do not approach for at least 15 minutes after all traces of fire has gone. Do not add more diesel oil unless certain that the flame is completely extinguished.

14. TRANSPORT INFORMATION

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Transport Information This material is classified as a Class 1 (Explosive) Dangerous Good according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 1 (Explosive) are incompatible in a placard load with any of 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 Substances
- Class 7, Radioactive Substance
- Class 8, Corrosive
- Class 9 - Miscellaneous Dangerous Goods
- Fire risk substances

U.N. Number 0082

Proper Shipping Name EXPLOSIVE, BLASTING, TYPE B

DG Class 1.1D

Hazchem Code E

Packaging Method E8

Packing Group see 'Other information' (*)

EPG Number EXP1

IERG Number 02

Other Information (*) Unless specific provision to the contrary is made, the packagings used for explosives shall comply with at least the requirements for solids or liquids (as appropriate) of Packing Group II (medium danger). Further information related to packaging, IBCS and Unit loads for explosives can be obtained from Australian Explosives Code.

15. REGULATORY INFORMATION

Poisons Schedule Not Scheduled

Hazard Category Explosive

16. OTHER INFORMATION

Date of preparation or MSDS reviewed: June 2007
last revision of MSDS

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Material Safety Data Sheet

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Product Name : **TITAN BLASTLITE**

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DISCLAIMER: The information and suggestions above concern explosive products which should only be dealt with by persons having appropriate technical skills, training and licences. The results depend to a large degree on the conditions under which the products are stored, transported and used.

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