1. IDENTIFICATION

GHS Product Identifier
AMMONIUM NITRATE

Company Name
Dyno Nobel Asia Pacific Pty Limited

Address
282 Paringa Road
Gibson Island Murarrie
QLD 4172 Australia

Telephone/Fax Number
Tel: (07) 3026 3900
Fax: (07) 3026 3999

Emergency phone number
1800 098 836

Recommended use of the chemical and restrictions on use
Component of blasting explosives.

Other Names

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETAPRILL</td>
<td></td>
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</tbody>
</table>

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture
Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
Oxidizing Solids: Category 3

Signal Word (s)
WARNING

Hazard Statement (s)
H272 May intensify fire; oxidiser.

Pictogram (s)
Flame over circle
Precautionary statement – Prevention
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P220 Keep/Store away from clothing/combustible materials.
P221 Take any precaution to avoid mixing with combustibles
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response
P370+P378 In case of fire: Use carbon dioxide, dry chemical, foam, water mist or water spray for extinction.

Precautionary statement – Disposal
P501 Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Nitrate</td>
<td>6484-52-2</td>
<td>100 %</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Inhalation
If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

Ingestion
Do not induce vomiting. Wash out mouth thoroughly with water. Seek medical attention.

Skin
Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

Eye contact
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and/or persist seek medical attention.

First Aid Facilities
Eyewash and normal washroom facilities.

Advice to Doctor
Treat symptomatically.

Other Information
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use carbon dioxide, dry chemical, foam, water mist or water spray.

Hazards from Combustion Products
Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

Specific Hazards Arising From The Chemical
Oxidising. Contact with combustible material may cause fire. Non combustible, but may support the combustion of other materials. Decomposes on heating emitting irritating white fumes of nitrous oxide and ammonium nitrate mist. Brown fumes indicate the presence of toxic oxides of nitrogen. On detection of fire the compartment(s) should be opened up to provide maximum ventilation. Keep containers and adjacent areas cool with water spray. If safe to do so, remove containers from path of fire. A major fire may involve a risk of explosion in the event of contamination or strong confinement. An adjacent detonation may also involve the risk of explosion.

Hazchem Code
1Y

Decomposition Temperature
Not available
Precautions in connection with Fire
Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures
Increase ventilation. Evacuate all unprotected personnel. Wear sufficient respiratory protection and full protective clothing to prevent exposure. Sweep up material avoiding dust generation or dampen spilled material with water to avoid airborne dust, then transfer material to a suitable container. Wash surfaces well with soap and water. Seal all wastes in labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid inhalation of dust, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of dust in the work atmosphere. Maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated area, out of direct sunlight and moisture. Store in suitable, labelled containers. Keep containers tightly closed. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom reference should be made to Australian Standard AS 4326 The storage and handling of oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values
No exposure standards have been established for the mixture. However, over-exposure to some chemicals may result in enhancement of pre-existing adverse medical conditions and/or allergic reactions and should be kept to the least possible levels.

Biological Limit Values
No biological limits allocated.

Appropriate Engineering Controls
Use with good general ventilation. If dust is produced, local exhaust ventilation should be used.
If the engineering controls are not sufficient to maintain concentrations of particulates below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

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, in order to make any necessary changes for individual circumstances.

Eye Protection
Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

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. Occupational protective gloves should conform to relevant regulations.
Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Properties</th>
<th>Description</th>
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<tbody>
<tr>
<td>Form</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>155°C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>366g/100g at 35°C</td>
</tr>
<tr>
<td>pH</td>
<td>5.4 (0.1M aq soln)</td>
</tr>
<tr>
<td>Vapour Density (Air=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Density</td>
<td>Bulk Density: 0.70 – 0.85 g/cc</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not combustible but it is an oxidising agent. May increase intensity of a fire.</td>
</tr>
<tr>
<td>Explosion Limit - Upper</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosion Limit - Lower</td>
<td>Not available</td>
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</table>

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions of storage and handling.

Reactivity and Stability
Reacts with incompatible materials. (See list below)

Conditions to Avoid
May explode under confinement and temperatures, but not readily detonated. When mixed with strong acids, and occasionally during blasting, produces irritating and toxic brown gas, mostly of nitrogen dioxide. When molten may decompose violently due to shock or pressure. Under certain conditions may react violently with nitrates, chlorates, chlorides or permanganates.

Incompatible materials
Will react with acids, ammonia, ammonium sulphate, chloride salts, metal powders, organic fuels, reducing agents and sulphides.

Hazardous Decomposition Products
When heated to decomposition (unconfined) produces nitrous oxide, white ammonium nitrate fumes and water.

Possibility of hazardous reactions
Not available

Hazardous Polymerization
Not available

11. TOXICOLOGICAL INFORMATION

Toxicology Information
The available acute toxicity data as published by RTECS (Registry of Toxic Effects of Chemical Substances), is given below.

Acute Toxicity - Oral
LD50 (Rat): 2217 mg/kg

Ingestion
Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Inhalation
Inhalation of dusts may irritate the respiratory system.
Skin
May be irritating to skin. The symptoms may include redness, itching and swelling.

Eye
May be irritating to eyes. The symptoms may include redness, itching and tearing.

Respiratory sensitisation
Not expected to be a respiratory sensitiser.

Skin Sensitisation
Not expected to be a skin sensitiser.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Reproductive Toxicity
Not considered to be toxic to reproduction.

STOT-single exposure
Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure
Not expected to cause toxicity to a specific target organ.

Aspiration Hazard
Not expected to be an aspiration hazard.

Other Information
Prolonged or repeated skin contact may cause defatting leading to dermatitis. Prolonged inhalation may cause central nervous system depression with symptoms including dizziness, drowsiness, nausea and headaches.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No ecological data available for this material. The available ecological data for the ingredients is given below:

Persistence and degradability
When released into water, this material is expected to readily biodegrade. When released into the soil, this material is not expected to evaporate significantly.

Mobility
When released into soil, this material is expected to leach into groundwater.

Bioaccumulative Potential
Not available

Other Adverse Effects
Not available

Environmental Protection
Prevent this material entering waterways, drains and sewers.

Acute Toxicity - Daphnia
Ammonium Nitrate was evaluated at 5, 10, 25 and 50 mg (NH4)/L. The fertility of Daphnia magna was decreased at 50 mg/L.

Acute Toxicity - Other Organisms
Ammonium Nitrate impaired the post embryonic growth of crustacea at 10, 25 and 50 mg/L.

13. DISPOSAL CONSIDERATIONS

Disposal considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

14. TRANSPORT INFORMATION
Transport Information

Road and Rail:
This material is classified as Dangerous Goods Division 5.1 (Oxidising Substances)
Dangerous Goods are incompatible in a placard load with any of the following:
- Class 1: Explosives
- Division 2.1: Flammable Gases
- Division 2.3: Toxic Gases
- Class 3: Flammable Liquids
- Division 4.1: Flammable Solids
- Division 4.2: Spontaneously combustible substances
- Division 4.3: Dangerous when wet Substances
- Some Division 5.1 Oxidising substances (Refer Table 9.2)
- Division 5.2: Organic peroxides
- Class 6: Toxic or Infectious Substances. If the Class 6 substance is a fire risk substance
- Class 7: Radioactive materials unless specifically exempted
- Class 8: Corrosive substances
- Class 9: Miscellaneous substances. (when the class 9 substance is a fire risk substance)
- Fire risk substances
- Combustible liquids

Marine Transport (IMO/IMDG):
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.
Class/Division: 5.1
UN No: 1942
Proper Shipping Name: AMMONIUM NITRATE
Packing Group: III
EMS : F-H, S-Q
Special Provisions: 900,952,967

Air Transport (ICAO/IATA):
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.
Class/Division: 5.1
UN No: 1942
Proper Shipping Name: Ammonium nitrate
Packing Group: III
Packaging Instructions (passenger & cargo): 559
Packaging Instructions (cargo only): 563
Hazard Label: Oxidizer
Special Provisions: A64,A803

U.N. Number
1942
UN proper shipping name
AMMONIUM NITRATE
Transport hazard class(es)
5.1
Packing Group
III
Hazchem Code
1Y
IERG Number
50
IMDG Marine pollutant
No
Transport in Bulk
Not available
15. REGULATORY INFORMATION

Regulatory information
Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule
Not Scheduled

16. OTHER INFORMATION

Date of preparation or last revision of SDS
SDS Reviewed: September 2015
Supersedes: March 2015
SDS Amended: March 2016, Section 14: 'Hazchem Code', 'Transport Information'
SDS Amended: February 2019, Section 1: Identification and Section 10: Stability and reactivity.

References
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice
Standard for the Uniform Scheduling of Medicines and Poisons.
Australian Code for the Transport of Dangerous Goods by Road & Rail.
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Workplace exposure standards for airborne contaminants, Safe work Australia.
American Conference of Industrial Hygienists (ACGIH)
Globally Harmonised System of classification and labelling of chemicals.

Contact Person/Point
Dyno Nobel Asia Pacific Limited
Telephone: (07) 3026 3900
Fax: (07) 3026 3999
Emergency: 1800 098 836

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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END OF SDS