Extruded Rifle Powders

SAFETY DATA SHEET

March 2015

The following smokeless powders are
distributed by Hodgdon Powder Company.

H4227®
H4895®
H4198®
Varget®
H4350®
H50BMG®
H4831®
H4831SC®
H1000®
Retumbo®
H322®
Benchmark®
**Propellant AR2218**

Thales (Thales Australia Limited)

Chemwatch: 4693-56
Version No: 7.1.1.1

Safety Data Sheet according to WHS and ADG requirements

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### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

**Product Identifier**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Propellant AR2218</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Not Available</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>POWDER, SMOKELESS†</td>
</tr>
<tr>
<td>Other means of</td>
<td>Not Available</td>
</tr>
<tr>
<td>identification</td>
<td></td>
</tr>
</tbody>
</table>

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: Propellant for use in centrefire small arms ammunition.

**Details of the manufacturer/importer**

<table>
<thead>
<tr>
<th>Registered company name</th>
<th>Thales (Thales Australia Limited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Private Bag 1 Mulwala 2647 NSW Australia</td>
</tr>
<tr>
<td>Telephone</td>
<td>Not Available +61 3 5742 2200</td>
</tr>
<tr>
<td>Fax</td>
<td>Not Available +61 3 5744 1873</td>
</tr>
<tr>
<td>Website</td>
<td>Not Available Not Available</td>
</tr>
<tr>
<td>Email</td>
<td>Not Available Not Available</td>
</tr>
</tbody>
</table>

**Emergency telephone number**

<table>
<thead>
<tr>
<th>Association / Organisation</th>
<th>Thales Australia Mulwala Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency telephone numbers</td>
<td>Not Available 03 5742 2200</td>
</tr>
<tr>
<td>Other emergency telephone numbers</td>
<td>Not Available Not Available</td>
</tr>
</tbody>
</table>

---

### SECTION 2 HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

| HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code. |

**CHEMWATCH HAZARD RATINGS**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Toxicity</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Body Contact</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Reactivity</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Chronic</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Poisons Schedule**

Not Applicable

**GHS Classification**

[1]

Explosive Division 1.3, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Germ Cell Mutagen Category 2, Carcinogen Category 1B, Reproductive Toxicity Category 2, STOT - RE Category 2, Chronic Aquatic Hazard Category 3

**Legend:**


**Label elements**

<table>
<thead>
<tr>
<th>GHS label elements</th>
</tr>
</thead>
</table>

**SIGNAL WORD**

DANGER

**Hazard statement(s)**

<table>
<thead>
<tr>
<th>Hazard Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H203</td>
<td>Explosive; fire, blast or projection hazard</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin</td>
</tr>
</tbody>
</table>
H332 Harmful if inhaled
H341 Suspected of causing genetic defects
H350 May cause cancer
H361 Suspected of damaging fertility or the unborn child
H373 May cause damage to organs through prolonged or repeated exposure
H412 Harmful to aquatic life with long lasting effects

### Precautionary statement(s) Prevention

- P201 Obtain special instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P230 Keep wetted with phlegmatizer
- P260 Do not breathe dust/dume/gas/mist/vapours/spray.

### Precautionary statement(s) Response

- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P370+P380 In case of fire: Evacuate area.
- P372 Explosion risk in case of fire.
- P373 DO NOT fight fire when fire reaches explosives.

### Precautionary statement(s) Storage

- P405 Store locked up.
- P401 Store according to local regulations for explosives

### Precautionary statement(s) Disposal

- P501 Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

See section below for composition of Mixtures

#### Mixtures

<table>
<thead>
<tr>
<th>CAS No</th>
<th>%[weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>9004-70-0</td>
<td>&gt;=85</td>
<td>nitrocellulose</td>
</tr>
<tr>
<td>121-14-2</td>
<td>1-10</td>
<td>2,4-dinitrotoluene</td>
</tr>
<tr>
<td>Not Available</td>
<td>&lt;10</td>
<td>additives nonhazardous</td>
</tr>
</tbody>
</table>

### SECTION 4 FIRST AID MEASURES

#### Description of first aid measures

**Eye Contact**
If this product comes in contact with the eyes:
- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

**Skin Contact**
If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

**Inhalation**
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

**Ingestion**
- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casually can comfortably drink.
- Transport to hospital or doctor without delay.

Indication of any immediate medical attention and special treatment needed
Symptoms of vasodilation and reflex tachycardia may present following organic nitrate overdose; most organic nitrates are extensively metabolised by hydrolysis to inorganic nitrates. Organic nitrates and nitrates are readily absorbed through the skin, lungs, mucous and gastro-intestinal tract.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

DANGER: Deliver media remotely.
- For minor fires: flooding quantities only.
- For large fires: Do not attempt to extinguish.

Special hazards arising from the substrate or mixture

Fire Incompatibility
- Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.
- Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.

Advice for firefighters

Fire Fighting

WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!
- Evacuate all personnel and move upwind.
- Prevent re-entry.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be explosively reactive, detonate and release much heat.

Fire/Explosion Hazard

WARNING: HIGH EXPLOSION HAZARD!
- Combustible.
- Will burn with rapidly increasing intensity of fire.
- Dry material is extremely sensitive to shock, friction, heat and sparks.
- Avoid metal to metal contact.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety glasses.
- Use spark-free tools when handling.
- Remove all ignition sources.

Major Spills
- Clear area of personnel.
- Restrict access to area.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling
- Use good occupational work practice. Observe manufacturer’s storage and handling recommendations contained within this MSDS.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Avoid smoking, naked lights, heat or ignition sources.
- Must not be struck by metal implements.

Other information
- Store in original containers.
- No smoking, naked lights, heat or ignition sources.
- Keep dry.
- Keep storage area free of debris, waste and combustibles.

Conditions for safe storage, including any incompatibilities

Suitable container
- Check containers are clearly labelled.
- Packaging as recommended by manufacturer.
- Explosives Code Packing Instruction P114(b) or 114(b).
- General packaging provisions of 4.1.1, 4.1.3 and special provision 4.1.5 are to be met.
- For UN 0160, 0161 - if outer packaging is drum then inner packaging is not required.

Storage incompatibility
- Segregate from strong acids, strong alkalis and strong oxidisers.
- Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.
- Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.
SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

<table>
<thead>
<tr>
<th>Source</th>
<th>Ingredient</th>
<th>Material name</th>
<th>TWA</th>
<th>STEL</th>
<th>Peak</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia Exposure Standards</td>
<td>nitrocellulose</td>
<td>Fume (thermally generated) (respirable dust)(g)</td>
<td>2 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

EMERGENCY LIMITS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Material name</th>
<th>TEEL-1</th>
<th>TEEL-2</th>
<th>TEEL-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrocellulose</td>
<td>Pyroxylin; (Cellulose tetranitrate)</td>
<td>15 mg/m³</td>
<td>170 mg/m³</td>
<td>990 mg/m³</td>
</tr>
<tr>
<td>2,4-dinitrotoluene</td>
<td>Dinitrotoluene, 2,4-</td>
<td>0.6 mg/m³</td>
<td>4.9 mg/m³</td>
<td>200 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Original IDLH</th>
<th>Revised IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrocellulose</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>2,4-dinitrotoluene</td>
<td>200 mg/m³</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>additives nonhazardous</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Exposure controls

Appropriate engineering controls
Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are:
- Process controls which involve changing the way a job activity or process is done to reduce the risk.
- Enclosure and/or isolation of emission source which keeps a selected hazard “physically” away from the worker and ventilation that strategically “adds” and “removes” air in the work environment.

Personal protection

Eye and face protection
- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection
See Hand protection below

Hands/feet protection
Wear protective gloves, e.g. PVC.
- Protective footwear

Body protection
See Other protection below

Other protection
- Overalls
- Eyewash unit.
- Ensure ready access to a burns first aid kit
- Impervious apron
- Ensure there is ready access to a safety shower
- Barrier cream

Thermal hazards
Not Available

Recommended material(s)

GLOVE SELECTION INDEX
Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the computer-generated selection:
Propellant AR2218

<table>
<thead>
<tr>
<th>Material</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARANEX-23</td>
<td>A</td>
</tr>
</tbody>
</table>

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation.

Respiratory protection

<table>
<thead>
<tr>
<th>Required Minimum Protection Factor</th>
<th>Half-Face Respirator</th>
<th>Full-Face Respirator</th>
<th>Powered Air Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 10 x ES</td>
<td>P1</td>
<td>-</td>
<td>PAPR-P1</td>
</tr>
<tr>
<td>up to 50 x ES</td>
<td>Air-line*</td>
<td>P2</td>
<td>PAPR-P2</td>
</tr>
<tr>
<td>up to 100 x ES</td>
<td>-</td>
<td>P3</td>
<td>-</td>
</tr>
<tr>
<td>100+ x ES</td>
<td>-</td>
<td>Air-line*</td>
<td>PAPR-P3</td>
</tr>
</tbody>
</table>

* - Negative pressure demand  ** - Continuous flow
A(All classes) = Organic vapours, B AUS or B1 = Acid gases, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark grey tubules.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Divided Solid</td>
</tr>
<tr>
<td>Relative density (Water = 1)</td>
<td>&gt; 1 approx</td>
</tr>
<tr>
<td>Odour</td>
<td>Not Available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol / water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>Auto-ignition temperature (°C)</td>
<td>170</td>
</tr>
<tr>
<td>pH (as supplied)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Partition coefficient n-octanol / water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Melting point / freezing point (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Available</td>
</tr>
<tr>
<td>Upper Explosive Limit (%)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Lower Explosive Limit (%)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapour pressure (kPa)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Solubility in water (g/L)</td>
<td>Immiscible</td>
</tr>
<tr>
<td>Vapour density (Air = 1)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Toxicity</td>
<td>Not Available</td>
</tr>
<tr>
<td>Irritation</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 10 STABILITY AND REACTIVITY

Reactivity

- See section 7

Chemical stability

- Product is considered stable under normal handling conditions.
- Stable under normal storage conditions.
- Hazardous polymerization will not occur.

Possibility of hazardous reactions

- See section 7

Conditions to avoid

- See section 7

Incompatible materials

- See section 7

Hazardous decomposition products

- See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

<table>
<thead>
<tr>
<th>Route</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhaled</td>
<td>Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. The decomposition vapours are harmful if inhaled in large volume.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The substance and/or its metabolites may bind to haemoglobin inhibiting normal uptake of oxygen. This condition, known as “methaemoglobinemia”, is a form of oxygen starvation (anoxia). Symptoms include cyanosis (a bluish discolouration skin and mucous membranes) and breathing difficulties.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Skin contact with the material may be harmful; systemic effects may result following absorption. The material is not thought to be a skin irritant (as classified by EC Directives using animal models). Abrasive damage however, may result from prolonged exposures. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.</td>
</tr>
<tr>
<td>Eye</td>
<td>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.</td>
</tr>
<tr>
<td>Chronic</td>
<td>The principal hazard is related to the potential of fire/explosion and associated physical injury and toxic fume inhalation. Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>TOXICITY</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propellant AR2218</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Nitrocellulose</td>
<td>Oral (rat) LD50: &gt;5000 mg/kg</td>
<td>Not Available</td>
</tr>
</tbody>
</table>
### 2,4-DINITROTOLUENE

**TOXICITY**
- Dermal (guinea pig) LD50: >1000 mg/kg[^2]
- Oral (rat) LD50: 268 mg/kg[^2]

**IRRITATION**
- Skin (rabbit): 500 mg/24h - mild

**Legend:**
1. Value obtained from Europe ECHA Registered Substances - Acute toxicity
2. Value obtained from manufacturer's msds

- Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

**NITROCELLULOSE**

No significant acute toxicological data identified in literature search.

**2,4-DINITROTOLUENE**

In humans, heavy DNT exposure causes signs of methaemoglobinaemia, which are reversible 2-3 days after removal from exposure. Signs of disturbances in liver function and exposure-dependent nephrotoxic effects directed to the tubular system were additionally found in exposed workers. Single findings in studies without reliable exposure data and/or only small numbers of significantly exposed workers indicating increased incidences of hepatobiliary or urothelial cancer in occupationally DNT exposed workers do not permit a conclusion on the carcinogenicity of DNT in humans. Preliminary observations pointing to an increased risk of ischemic heart disease or to an adverse effect on the human male reproductive system could not be confirmed by further studies.

In humans dinitrotoluene (DNT, technical grade) is absorbed following dermal and inhalative exposure and is rapidly metabolized and excreted in urine.

### Acute Toxicity

- **Skin Irritation/Corrosion**
- **Serious Eye Damage/Irritation**
- **Respiratory or Skin sensitisation**
- **Mutagenicity**

### Carcinogenicity

- **Reproductivity**

### STOT - Single Exposure

- **STOT - Repeated Exposure**

### Aspiration Hazard

**CMR STATUS**

Not Applicable

### SECTION 12 ECOLOGICAL INFORMATION

**Toxicity**

**DO NOT** discharge into sewer or waterways.

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-dinitrotoluene</td>
<td>HIGH (Half-life = 360 days)</td>
<td>MEDIUM (Half-life = 118.33 days)</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-dinitrotoluene</td>
<td>HIGH (BCF = 2507)</td>
</tr>
</tbody>
</table>

**Mobility in soil**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-dinitrotoluene</td>
<td>LOW (KOC = 363.8)</td>
</tr>
</tbody>
</table>

### SECTION 13 DISPOSAL CONSIDERATIONS

**Waste treatment methods**

- Explosives must not be thrown away, buried, discarded or placed with garbage.
- Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified.
- This material may be disposed of by burning or detonation but the operation may only be performed under the control of a person trained in the safe destruction of explosives.

### SECTION 14 TRANSPORT INFORMATION

**Labels Required**

<table>
<thead>
<tr>
<th>Marine Pollutant</th>
<th>HAZCHEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
### Land transport (ADG)

<table>
<thead>
<tr>
<th>UN number</th>
<th>0161</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>POWDER, SMOKELESS†</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>No relevant data</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>Class 1.3C</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Special provisions Not Applicable</td>
</tr>
</tbody>
</table>

### Air transport (ICAO-IATA / DGR)

<table>
<thead>
<tr>
<th>UN number</th>
<th>0161</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Powder, smokeless †</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>No relevant data</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>ICAO-IATA Class 1.3C</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Special provisions Not Applicable</td>
</tr>
</tbody>
</table>

### Sea transport (IMDG-Code / GGVSee)

<table>
<thead>
<tr>
<th>UN number</th>
<th>0161</th>
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<tbody>
<tr>
<td>Packing group</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>POWDER, SMOKELESS</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>No relevant data</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>IMDG Class 1.3C</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>EMS Number F-B, S-Y</td>
</tr>
</tbody>
</table>

### SECTION 15 REGULATORY INFORMATION

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

*nitrocellulose(9004-70-0)* is found on the following regulatory lists:

- "Australia Exposure Standards" [AICS]
- "Australia Inventory of Chemical Substances (AICS)"
- "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs"
- "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft"
- "Australia Hazardous Substances Information System - Consolidated Lists"

*2,4-dinitrotoluene(121-14-2)* is found on the following regulatory lists:

- "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs"
- "Australia Inventory of Chemical Substances (AICS)"
- "Australia Hazardous Substances Information System - Consolidated Lists"

### SECTION 16 OTHER INFORMATION

**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references. A list of reference resources used to assist the committee may be found at: [www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Notes**

When the propellant is packed as in packaging UN4GY12.5/S***/AUS/ABBIE 30818 it is suitable for air transport as follows:

- **Land transport (ADG)**
  
- **Air transport (ICAO-IATA / DGR)**
  
- **Sea transport (IMDG-Code / GGVSee)**

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Continued...
Air Transport IATA
ICAO/IATA Class 1.4C ICAO/IATA Subrisk: None
UN/ID Number 0509 Packing Group:-
Special Provisions: None
Cargo Only
Packing Instructions: 1: Maximum Qty/Pack: 10kg
Passenger and Cargo
Packing Instructions: Forbidden Maximum Qty/Pack: Forbidden
Limited Quantity
Packing Instructions: Forbidden Maximum Quantity: Forbidden

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