



Extruded Rifle Powders  
**SAFETY DATA SHEET**  
June 2017

The following smokeless powders are distributed by Hodgdon Powder Company.

H4227<sup>®</sup> (NO 1.4C)  
H4895<sup>®</sup> (**EX-2015110873**)  
H4198<sup>®</sup> (**EX-2013031308**)  
Varget<sup>®</sup> (**EX-2015110873**)  
H4350<sup>®</sup> (**EX-2015110873**)  
H50BMG<sup>®</sup> (**EX-2012010785**)  
H4831<sup>®</sup> (**EX-2015110873**)  
H4831SC<sup>®</sup> (**EX-2015110873**)  
H1000<sup>®</sup> (**EX-2015110873**)  
Retumbo<sup>®</sup> (**EX-2015110873**)  
H322<sup>®</sup> (**EX-2016090002**)  
Benchmark<sup>®</sup> (**EX-2016090003**)

***1.4C EX Approvals in bold parenthesis***

# Propellant AR2210

Thales (Thales Australia Limited)

Chemwatch Hazard Alert Code: 4

Chemwatch: 17513  
Version No: 11.1.1.1  
Safety Data Sheet according to WHS and ADG requirements

Issue Date: 07/05/2013  
Print Date: 05/03/2015  
Initial Date: Not Available  
S.GHS.AUS.EN

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

### Product Identifier

Product name	Propellant AR2210
Synonyms	AR 2219; H322; AR 2210 V02; Propellant AR2210 V01
Proper shipping name	POWDER, SMOKELESS†
Other means of identification	Not Available

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

Relevant identified uses	Propellant for use in centrefire ammunition.
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### Details of the manufacturer/importer

Registered company name	Thales (Thales Australia Limited)	Thales (Thales Australia Limited)
Address	Private Bag 1 Mulwala 2647 NSW Australia	Bayly Street Mulwala 2647 NSW Australia
Telephone	Not Available	+61 3 5742 2200
Fax	Not Available	+61 3 5744 1873
Website	Not Available	Not Available
Email	Not Available	Not Available

### Emergency telephone number

Association / Organisation	Not Available	Thales Australia Mulwala Facility
Emergency telephone numbers	Not Available	03 5742 2200
Other emergency telephone numbers	Not Available	Not Available

## 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

	Min	Max	
Flammability	3	4	0 = Minimum 1 = Low 2 = Moderate 3 = High 4 = Extreme
Toxicity	2	3	
Body Contact	2	3	
Reactivity	4	4	
Chronic	3	4	

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:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

GHS label elements	
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SIGNAL WORD	<b>DANGER</b>
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### Hazard statement(s)

H203	Explosive; fire, blast or projection hazard
H302	Harmful if swallowed
H312	Harmful in contact with skin

Continued...

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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/fume/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
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
9004-70-0	>90	<a href="#">nitrocellulose</a>
121-14-2	<10	<a href="#">2,4-dinitrotoluene</a>
122-39-4	0-1	<a href="#">diphenylamine</a>
Not Available	<10	additives

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>Wash out immediately with water.</li> <li>If irritation continues, seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>Immediately remove all contaminated clothing, including footwear.</li> <li>Flush skin and hair with running water (and soap if available).</li> <li>Seek medical attention in event of irritation.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>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.</li> <li>Transport to hospital, or doctor.</li> </ul>
Ingestion	<p>Not considered a normal route of entry.</p> <ul style="list-style-type: none"> <li>For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>Urgent hospital treatment is likely to be needed.</li> <li><b>If swallowed do NOT induce vomiting.</b></li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Transport to hospital or doctor without delay.</li> </ul>

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 nitrites. Organic nitrates and nitrites are readily absorbed through the skin, lungs, mucosa and gastro-intestinal tract.

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**SECTION 5 FIREFIGHTING MEASURES**

**Extinguishing media**

	<p><b>DANGER:</b> Deliver media remotely.</p> <ul style="list-style-type: none"> <li>▶ For minor fires: Flooding quantities only.</li> <li>▶ For large fires: <b>Do not attempt to extinguish.</b></li> </ul>
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**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.</li> <li>▶ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.</li> </ul>
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**Advice for firefighters**

<b>Fire Fighting</b>	<p><b>WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!</b></p> <ul style="list-style-type: none"> <li>▶ Evacuate all personnel and move upwind.</li> <li>▶ Prevent re-entry.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be explosively reactive, detonate and release much heat.</li> </ul>
<b>Fire/Explosion Hazard</b>	<p><b>WARNING: HIGH EXPLOSION HAZARD!</b></p> <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Will burn with rapidly increasing intensity of fire.</li> <li>▶ Dry material is extremely sensitive to shock, friction, heat and sparks.</li> <li>▶ Avoid metal to metal contact.</li> </ul>

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

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

<b>Minor Spills</b>	<p>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.</p>
<b>Major Spills</b>	<p>Clear area of personnel. Restrict access to area. Alert Fire Brigade and tell them location and nature of hazard.</p> <ul style="list-style-type: none"> <li>▶ May be violently or explosively reactive.</li> </ul>
	<p>Personal Protective Equipment advice is contained in Section 8 of the MSDS.</p>

**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

<b>Safe handling</b>	<p>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.</p> <ul style="list-style-type: none"> <li>▶ Avoid smoking, naked lights, heat or ignition sources</li> </ul> <p>Must not be struck by metal implements.</p>
<b>Other information</b>	<p>Store in original containers.</p> <ul style="list-style-type: none"> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ Keep dry</li> <li>▶ Keep storage area free of debris, waste and combustibles.</li> </ul> <p>Protect containers against physical damage</p> <ul style="list-style-type: none"> <li>▶ Check regularly for spills and leaks</li> </ul>

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

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Packaging as recommended by manufacturer.</li> </ul> <p>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. For UN 0160, 0161 - If outer packaging is 1A2 or 1B2 metal drums then drum construction shall be that risk of explosion, by reason of increase by internal pressure from internal or external causes, is prevented.</p>
<b>Storage incompatibility</b>	<p>Segregate from strong acids strong alkalis and strong oxidisers</p> <ul style="list-style-type: none"> <li>▶ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.</li> <li>▶ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.</li> </ul>



X — Must not be stored together

**Propellant AR2210**

- 0 — May be stored together with specific preventions
- + — May be stored together

**PACKAGE MATERIAL INCOMPATIBILITIES**

Not Available

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	nitrocellulose	Fume (thermally generated) (respirable dust)(g)	2 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	diphenylamine	Diphenylamine	10 mg/m3	Not Available	Not Available	Not Available

**EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
nitrocellulose	Pyroxylin; (Cellulose tetranitrate)	15 mg/m3	170 mg/m3	990 mg/m3
2,4-dinitrotoluene	Dinitrotoluene, 2,4-	0.6 mg/m3	4.9 mg/m3	200 mg/m3
diphenylamine	Diphenylamine	30 mg/m3	65 mg/m3	220 mg/m3

Ingredient	Original IDLH	Revised IDLH
nitrocellulose	Not Available	Not Available
2,4-dinitrotoluene	200 mg/m3	50 mg/m3
diphenylamine	Not Available	Not Available
additives	Not Available	Not Available

**Exposure controls**

<b>Appropriate engineering controls</b>	<p>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.</p> <p>The basic types of engineering controls are:</p> <ul style="list-style-type: none"> <li>Process controls which involve changing the way a job activity or process is done to reduce the risk.</li> <li>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.</li> </ul>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ 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.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p>Wear protective gloves, e.g. PVC.</p> <ul style="list-style-type: none"> <li>▶ Protective footwear</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<p>Overalls</p> <ul style="list-style-type: none"> <li>▶ Eyewash unit.</li> </ul> <p>Ensure ready access to a burns first aid kit</p>
<b>Thermal hazards</b>	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:

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Material	CPI
SARANEX-23	A

\* 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. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**Respiratory protection**

Not Applicable

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**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	Dark grey tubules.		
<b>Physical state</b>	Manufactured	<b>Relative density (Water = 1)</b>	> 1.0
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	170
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Explosive.
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Applicable
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Applicable	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Applicable	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Applicable
<b>Lower Explosive Limit (%)</b>	Not Applicable	<b>Volatile Component (%vol)</b>	Negligible
<b>Vapour pressure (kPa)</b>	Negligible	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	Not Applicable	<b>VOC g/L</b>	Not Available

**SECTION 10 STABILITY AND REACTIVITY**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Product is considered stable under normal handling conditions.</li> <li>▶ Stable under normal storage conditions.</li> <li>▶ Hazardous polymerization will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

<b>Inhaled</b>	<p>Not normally a hazard due to physical form of product.</p> <p>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.</p> <p>The decomposition vapours are harmful if inhaled in large volume.</p>
<b>Ingestion</b>	<p>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.</p> <p>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).</p> <p>Symptoms include cyanosis (a bluish discolouration skin and mucous membranes) and breathing difficulties.</p>
<b>Skin Contact</b>	<p>5511r21</p> <p>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.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
<b>Eye</b>	<p>Not normally a hazard due to physical form of product.</p> <p>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.</p>
<b>Chronic</b>	<p>The principal hazard is related to the potential of fire/explosion and associated physical injury and toxic fume inhalation.</p> <p>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.</p>

<b>Propellant AR2210</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

Propellant AR2210

nitrocellulose	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >5000 mg/kg <sup>[2]</sup>	Not Available
2,4-dinitrotoluene	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (guinea pig) LD50: >1000 mg/kg <sup>[2]</sup> Oral (rat) LD50: 268 mg/kgd <sup>[2]</sup>	Skin (rabbit): 500 mg/24h - mild
diphenylamine	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (hamster) LD50: ca.600 mg/kg <sup>[1]</sup>	Not Available
<b>Legend:</b>	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	

<b>NITROCELLULOSE</b>	No significant acute toxicological data identified in literature search.
<b>2,4-DINITROTOLUENE</b>	for dinitrotoluene (syn: dinitromethylbenzene; DNT) 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.
<b>DIPHENYLAMINE</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. ADI: 0.02 mg/kg/day NOEL: 1.5 mg/kg/day

<b>Acute Toxicity</b>	✔	<b>Carcinogenicity</b>	✔
<b>Skin Irritation/Corrosion</b>	⊘	<b>Reproductivity</b>	✔
<b>Serious Eye Damage/Irritation</b>	⊘	<b>STOT - Single Exposure</b>	⊘
<b>Respiratory or Skin sensitisation</b>	⊘	<b>STOT - Repeated Exposure</b>	✔
<b>Mutagenicity</b>	✔	<b>Aspiration Hazard</b>	⊘

**Legend:** ✔ – Data required to make classification available  
✘ – Data available but does not fill the criteria for classification  
⊘ – Data Not Available to make classification

**CMR STATUS**

Not Applicable

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

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

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
2,4-dinitrotoluene	HIGH (Half-life = 360 days)	MEDIUM (Half-life = 118.33 days)
diphenylamine	LOW (Half-life = 56 days)	Not Available

**Bioaccumulative potential**

Ingredient	Bioaccumulation
2,4-dinitrotoluene	HIGH (BCF = 2507)
diphenylamine	LOW (BCF = 253)

**Mobility in soil**

Ingredient	Mobility
2,4-dinitrotoluene	LOW (KOC = 363.8)
diphenylamine	LOW (KOC = 1887)

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Propellant AR2210**

**Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Explosives must not be thrown away, buried, discarded or placed with garbage.</li> <li>▶ Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified.</li> <li>▶ 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.</li> </ul>
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**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	Not Applicable

**Land transport (ADG)**

<b>UN number</b>	0161	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	POWDER, SMOKELESS†	
<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	Class	1.3C
	Subrisk	Not Applicable
<b>Special precautions for user</b>	Special provisions	Not Applicable
	Limited quantity	0

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

<b>UN number</b>	0161	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	Powder, smokeless †	
<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	1.3C
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	1L
<b>Special precautions for user</b>	Special provisions	Not Applicable
	Cargo Only Packing Instructions	Forbidden
	Cargo Only Maximum Qty / Pack	Forbidden
	Passenger and Cargo Packing Instructions	Forbidden
	Passenger and Cargo Maximum Qty / Pack	Forbidden
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

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

<b>UN number</b>	0161	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	POWDER, SMOKELESS	
<b>Environmental hazard</b>	Not Applicable	
<b>Transport hazard class(es)</b>	IMDG Class	1.3C
	IMDG Subrisk	Not Applicable
<b>Special precautions for user</b>	EMS Number	F-B , S-Y
	Special provisions	Not Applicable
	Limited Quantities	0

**Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

Source	Ingredient	Pollution Category
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IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	diphenylamine	Y
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## SECTION 15 REGULATORY INFORMATION

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

<b>nitrocellulose(9004-70-0) is found on the following regulatory lists</b>	"Australia Exposure Standards","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"
<b>2,4-dinitrotoluene(121-14-2) is found on the following regulatory lists</b>	"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"
<b>diphenylamine(122-39-4) is found on the following regulatory lists</b>	"Australia Exposure Standards","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 types AR2210, AR2210V01, AR2210 V02 and AR2219 are packed as in packaging UN4GY12.5/S/\*\*/AUS/ABBE 30818 it is suitable for air transport as follows:

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: 114 Maximum Qty/Pack: 10kg

Passenger and Cargo

Packing Instructions: Forbidden Maximum Qty/Pack: Forbidden

Passenger and Cargo

Limited Quantity

Packing Instructions: Forbidden Maximum Qty/Pack: Forbidden

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