

Combined Systems MODEL 4210 40MM Training Smoke Projectile

Winchester Australia Ltd

Chemwatch Hazard Alert Code: 4

Chemwatch: 4898-99

Issue Date: 13/06/2014

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Safety Data Sheet according to WHS and ADG requirements

Initial Date: Not Available

L.GHS.AUS.EN

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

Product Identifier

Product name	Combined Systems MODEL 4210 40MM Training Smoke Projectile
Synonyms	Not Available
Proper shipping name	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge†
Other means of identification	Not Available

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

Relevant identified uses	Explosive product which on initiation produces smoke.
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Details of the manufacturer/importer

Registered company name	Winchester Australia Ltd
Address	65 Hays Road Moolap, Geelong 3224 VIC Australia
Telephone	+61 3 5245 2400
Fax	+61 3 5248 2409
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 3 5245 2400 (office hours)
Other emergency telephone numbers	04 17 090 554; 04 18 158 337 (AH)

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

Poisons Schedule	Not Applicable
GHS Classification [1]	Explosive Division 1.4, 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	WARNING
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Hazard statement(s)

H204	Fire or projection hazard
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H412	Harmful to aquatic life with long lasting effects
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Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P250	Do not subject to grinding/shock/sources of friction.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P370+P380	In case of fire: Evacuate area.
P372	Explosion risk in case of fire.
P374	Fight fire with normal precautions from a reasonable distance.
P373	DO NOT fight fire when fire reaches explosives.

Precautionary statement(s) Storage

P401	Store according to local regulations for explosives
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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
84-65-1	25-50	<u>9,10-anthraquinone</u>
3811-04-9	25-50	<u>potassium chlorate</u>
57-50-1	10-25	<u>sucrose</u>
7760-50-1	<10	<u>magnesium carbonate hydroxide</u>
7757-79-1	<10	<u>potassium nitrate</u>
7440-21-3	<10	<u>silicon</u>
9004-70-0	<10	<u>nitrocellulose</u>
63918-97-8	<1	<u>lead styphnate</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh 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. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ Not considered a normal route of entry. ▶ 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 casualty can comfortably drink. ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ **WARNING:** Deliver water spray or fog from a safe distance only.

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 detonate and burning material may be propelled from fire.
- ▶ Wear full-body protective clothing with breathing apparatus.
- ▶ Prevent, by any means available, spillage and fire effluent from entering drains and water courses.
- ▶ Fight fire from safe distances and from protected locations.
- ▶ Use flooding quantities of water.
- ▶ **DO NOT** approach containers or packages suspected to be hot
- ▶ Cool any exposed containers not involved in fire from a protected location.
- ▶ Equipment should be thoroughly decontaminated after use.

Fire/Explosion Hazard

Division 1.4 Substances, mixtures and articles which present no significant hazard: substances, mixtures and articles which present only a small hazard in the event of ignition or initiation. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package.

Decomposes on heating and produces toxic fumes of carbon monoxide (CO) carbon dioxide (CO₂) nitrogen oxides (NO_x) metal oxides chloride. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely. In unusual cases, shrapnel may be thrown from exploding devices under containment

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills

WARNING!: EXPLOSIVE

BLAST and/or PROJECTION and/or FIRE HAZARD

- ▶ Clean up all spills immediately.
- ▶ Avoid inhalation of the material and avoid contact with eyes and skin.
- ▶ Wear impervious gloves and safety glasses.
- ▶ Remove all ignition sources.
- ▶ Use spark-free tools when handling.
- ▶ Sweep into non-sparking containers or barrels and moisten with water.
- ▶ Place spilled material in clean, sealable, labelled container for disposal.
- ▶ Flush area with large amounts of water.

Major Spills

WARNING: EXPLOSIVE

- ▶ Clear area of personnel and move upwind.
- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ May be violently or explosively reactive.
- ▶ Wear full body protective clothing with breathing apparatus.
- ▶ Consider evacuation (or protect in place).
- ▶ In case of transport accident notify Police, Emergency Authority, Competent Explosives Authority or Manufacturer.
- ▶ No smoking, naked lights, heat or ignition sources.
- ▶ Increase ventilation.
- ▶ Use extreme caution to prevent physical shock.
- ▶ Use only spark-free shovels and explosion-proof equipment.
- ▶ Collect recoverable material and segregate from spilled material.
- ▶ Wash spill area with large quantities of water.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling

7explosive|Under normal handling, no exposure to harmful materials will occur.

Other information

- ▶ Store cases in a well ventilated magazine licenced for the appropriate Class, Division and Compatibility Group.
- ▶ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.
- ▶ Store in a cool place in original containers.
- ▶ Keep containers securely sealed.
- ▶ No smoking, naked lights, heat or ignition sources.
- ▶ Store in an isolated area away from other materials.
- ▶ Keep storage area free of debris, waste and combustibles.
- ▶ Protect containers against physical damage.
- ▶ Check regularly for spills and leaks

NOTE: If explosives need to be destroyed contact the Competent Authority.

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods.

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	<ul style="list-style-type: none"> ▶ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division
Storage incompatibility	<ul style="list-style-type: none"> ▶ Reacts with acids producing flammable / explosive hydrogen (H₂) gas ▶ Avoid reaction with oxidising agents ▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. strong alkalis



X

+

X

X

X

X

X

X — Must not be stored together

0 — May be stored together with specific preventions

+ — May be stored together

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	sucrose	Sucrose (a)	10 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	silicon	Silicon (a)	10 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	nitrocellulose	Fume (thermally generated) (respirable dust)(g)	2 mg/m ³	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
9,10-anthraquinone	Anthraquinone	0.87 mg/m ³	9.6 mg/m ³	57 mg/m ³
potassium chlorate	Potassium chlorate	2.3 mg/m ³	25 mg/m ³	900 mg/m ³
sucrose	Sucrose	30 mg/m ³	980 mg/m ³	5900 mg/m ³
magnesium carbonate hydroxide	Magnesium carbonate hydroxide	30 mg/m ³	330 mg/m ³	2000 mg/m ³
potassium nitrate	Potassium nitrate	0.074 mg/m ³	0.82 mg/m ³	600 mg/m ³
silicon	Silicon	45 mg/m ³	100 mg/m ³	630 mg/m ³
nitrocellulose	Pyroxylin; (Cellulose tetranitrate)	15 mg/m ³	170 mg/m ³	990 mg/m ³

Ingredient	Original IDLH	Revised IDLH
9,10-anthraquinone	Not Available	Not Available
potassium chlorate	Not Available	Not Available
sucrose	Not Available	Not Available
magnesium carbonate hydroxide	Not Available	Not Available
potassium nitrate	Not Available	Not Available
silicon	Not Available	Not Available
nitrocellulose	Not Available	Not Available
lead styphnate	700 mg/m ³	100 mg/m ³

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Normally used outdoors.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Chemical goggles. ▶ Full face shield may be required for supplementary but never for primary protection of eyes. ▶ 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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below

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Hands/feet protection	<p>Wear physical protective gloves, e.g. leather</p> <ul style="list-style-type: none"> ▶ Heavy weight Rubber gloves ▶ Rubber boots <p>Non-sparking or conductive footwear essential. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.</p>
Body protection	See Other protection below
Other protection	<p>For handling explosives or explosive compositions:</p> <ul style="list-style-type: none"> ▶ Wear close-fitting flame-protection treated clothing closed at the neck and sleeves. ▶ Cotton underwear, socks and conductive shoes are recommended to avoid human static discharge.
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:

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Material	CPI

* 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 Available

Not Applicable

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Presence of shock and friction ▶ Presence of heat source and ignition source ▶ Product is considered stable under normal handling conditions. ▶ Stable under normal storage conditions. ▶ Hazardous polymerization will not occur. <p>Avoid contact with other chemicals. May detonate if case is punctured or severely damaged.</p>
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

Inhaled	Not normally a hazard due to physical form of product. Irritating to respiratory system.
Ingestion	Not normally a hazard due to physical form of product.
Skin Contact	Not normally a hazard due to physical form of product.
Eye	Not normally a hazard due to physical form of product. Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.
Chronic	Explosive components are completely sealed within the container. Under normal handling of this product, no exposure to harmful materials will occur. Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

Combined Systems MODEL 4210 40MM Training Smoke Projectile	TOXICITY	IRRITATION
	Not Available	Not Available
9,10-anthraquinone	TOXICITY	IRRITATION
	dermal (rat) LD50: >1000 mg/kg ^[2]	* = Pesticide Manual No. 31
	Inhalation (rat) LC50: >1.3 mg/L/4h ^[2]	Eye (rabbit): not irritating *
Oral (rat) LD50: >5000 mg/kg ^{**[2]}	Sin (rabbit): not irritating *	
potassium chlorate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Nil reported
Oral (rat) LD50: 1870 mg/kg ^[2]		
sucrose	TOXICITY	IRRITATION
	Oral (rat) LD50: 29700 mg/kg ^[2]	Not Available
magnesium carbonate hydroxide	TOXICITY	IRRITATION
	Not Available	Not Available
potassium nitrate	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg ^[1]	Nil reported
	Oral (rat) LD50: >2000 mg/kg ^[1]	
silicon	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >5000 mg/kg ^[1]	Nil reported
	Oral (rat) LD50: 3160 mg/kg ^[2]	
nitrocellulose	TOXICITY	IRRITATION
	Oral (rat) LD50: >5000 mg/kg ^[2]	Not Available
lead styphnate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Not Available
	Inhalation (rat) LC50: >5.05 mg/l4 h ^[1]	
Oral (rat) LD50: >2000 mg/kg ^[1]		
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

9,10-ANTHRAQUINONE	<p>The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p> <p>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</p>
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	<p>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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p>
SILICON	<p>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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p> <p>No significant acute toxicological data identified in literature search.</p> <p>Intraperitoneal injection of silicon produced only minor local trauma and foreign body reaction. Parenterally administered elemental silica is considered biologically inert.</p> <p>Dogs and rats fed 800 mg silicon/kg/day (as the dioxide) for 1 month showed no clinical signs or histological changes.</p> <p>The compound was largely eliminated in the faeces.</p> <p>Normal human cerebral cortex tissue contains about 3.8 ug/g silicon</p> <p>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p>
LEAD STYPHNATE	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p> <p>No significant acute toxicological data identified in literature search.</p>
MAGNESIUM CARBONATE HYDROXIDE & NITROCELLULOSE	<p>No significant acute toxicological data identified in literature search.</p>

Acute Toxicity	☐	Carcinogenicity	☐
Skin Irritation/Corrosion	☐	Reproductivity	☐
Serious Eye Damage/Irritation	☐	STOT - Single Exposure	☐
Respiratory or Skin sensitisation	☐	STOT - Repeated Exposure	☐
Mutagenicity	☐	Aspiration Hazard	☐

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

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
9,10-anthraquinone	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
potassium chlorate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
sucrose	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
magnesium carbonate hydroxide	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
potassium nitrate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
silicon	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
nitrocellulose	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
lead styphnate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
9,10-anthraquinone	HIGH	HIGH
potassium chlorate	HIGH	HIGH

Continued...

sucrose	LOW	LOW
potassium nitrate	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
9,10-anthraquinone	LOW (LogKOW = 3.39)
potassium chlorate	LOW (LogKOW = -4.6296)
sucrose	LOW (LogKOW = -3.7)
potassium nitrate	LOW (LogKOW = 0.209)

Mobility in soil

Ingredient	Mobility
9,10-anthraquinone	LOW (KOC = 185.7)
potassium chlorate	LOW (KOC = 35.04)
sucrose	LOW (KOC = 10)
potassium nitrate	LOW (KOC = 14.3)

SECTION 13 DISPOSAL CONSIDERATIONS**Waste treatment methods**

Product / Packaging disposal	
	<ul style="list-style-type: none"> 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**

	
Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG)

UN number	0303				
Packing group	Not Applicable				
UN proper shipping name	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge†				
Environmental hazard	No relevant data				
Transport hazard class(es)	<table border="0"> <tr> <td>Class</td> <td>1.4G</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	1.4G	Subrisk	Not Applicable
Class	1.4G				
Subrisk	Not Applicable				
Special precautions for user	<table border="0"> <tr> <td>Special provisions</td> <td>204</td> </tr> <tr> <td>Limited quantity</td> <td>0</td> </tr> </table>	Special provisions	204	Limited quantity	0
Special provisions	204				
Limited quantity	0				

Air transport (ICAO-IATA / DGR)

UN number	0303										
Packing group	Not Applicable										
UN proper shipping name	Ammunition, smoke with or without burster, expelling charge or propelling charge										
Environmental hazard	No relevant data										
Transport hazard class(es)	<table border="0"> <tr> <td>ICAO/IATA Class</td> <td>1.4G</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>1L</td> </tr> </table>	ICAO/IATA Class	1.4G	ICAO / IATA Subrisk	Not Applicable	ERG Code	1L				
ICAO/IATA Class	1.4G										
ICAO / IATA Subrisk	Not Applicable										
ERG Code	1L										
Special precautions for user	<table border="0"> <tr> <td>Special provisions</td> <td>A132</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>130</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>75 kg</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>Forbidden</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>Forbidden</td> </tr> </table>	Special provisions	A132	Cargo Only Packing Instructions	130	Cargo Only Maximum Qty / Pack	75 kg	Passenger and Cargo Packing Instructions	Forbidden	Passenger and Cargo Maximum Qty / Pack	Forbidden
Special provisions	A132										
Cargo Only Packing Instructions	130										
Cargo Only Maximum Qty / Pack	75 kg										
Passenger and Cargo Packing Instructions	Forbidden										
Passenger and Cargo Maximum Qty / Pack	Forbidden										

Combined Systems MODEL 4210 40MM Training Smoke Projectile

Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	0303	
Packing group	Not Applicable	
UN proper shipping name	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	
Environmental hazard	Not Applicable	
Transport hazard class(es)	IMDG Class	1.4G
	IMDG Subrisk	Not Applicable
Special precautions for user	EMS Number	F-B , S-X
	Special provisions	204
	Limited Quantities	0

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

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	9,10-anthraquinone	X

SECTION 15 REGULATORY INFORMATION

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

9,10-ANTHRAQUINONE(84-65-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
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POTASSIUM CHLORATE(3811-04-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists	Australia Inventory of Chemical Substances (AICS)
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SUCROSE(57-50-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
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MAGNESIUM CARBONATE HYDROXIDE(7760-50-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

POTASSIUM NITRATE(7757-79-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

SILICON(7440-21-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
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NITROCELLULOSE(9004-70-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
Australia Hazardous Substances Information System - Consolidated Lists	International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

LEAD STYPHNATE(63918-97-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (lead styphnate; sucrose; magnesium carbonate hydroxide; nitrocellulose; silicon; 9,10-anthraquinone; potassium chlorate; potassium nitrate)
China - IECSC	N (lead styphnate)
Europe - EINEC / ELINCS / NLP	N (nitrocellulose)
Japan - ENCS	N (sucrose; silicon)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	N (lead styphnate)
USA - TSCA	Y
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
silicon	152284-21-4, 157383-37-4, 160371-18-6, 17375-03-0, 71536-23-7, 72516-01-9, 72516-02-0, 72516-03-1, 7440-21-3, 90337-93-2
lead styphnate	15245-44-0, 63918-97-8, 6594-85-0

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

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.

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