

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

Winchester Australia Ltd

Chemwatch Hazard Alert Code: 4

Chemwatch: 4898-68

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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 4233 40mm CS Multi (3) Smoke Cartridges
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 producing CS tear gas for crowd dispersal.
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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	2		
Reactivity	4		
Chronic	0		

Poisons Schedule	Not Applicable
GHS Classification [1]	Explosive Division 1.4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, STOT - SE (Resp. Irr.) Category 3, 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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Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H412	Harmful to aquatic life with long lasting effects

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.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P362	Take off contaminated clothing.
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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P373	DO NOT fight fire when fire reaches explosives.
P312	Call a POISON CENTER/doctor/physician/first aider/ff you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313	If skin irritation occurs: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.
P401	Store according to local regulations for explosives
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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
3811-04-9	25-50	<u>potassium chlorate</u>
57-50-1	10-25	<u>sucrose</u>
2698-41-1	10-25	<u>o-chlorobenzylidene malononitrile</u>
7760-50-1	10-25	<u>magnesium carbonate hydroxide</u>
7757-79-1	<10	<u>potassium nitrate</u>
9004-70-0	<10	<u>nitrocellulose</u>
639 18-97-8	<0.1	<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.

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

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. ▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▶ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. ▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. <p>This must definitely be left to a doctor or person authorised by him/her. (CSC13719)</p>
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 | <ul style="list-style-type: none"> ▶ 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. |
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Advice for firefighters

Fire Fighting	<p>WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!</p> <ul style="list-style-type: none"> ▶ 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	<p>WARNING: EXPLOSION HAZARD!</p> <ul style="list-style-type: none"> ▶ Combustible. ▶ Detonation may occur from heavy impact or excessive heating. ▶ Mixing with incompatible chemicals may cause expansion, decomposition or detonation. ▶ Heat affected containers remain hazardous. ▶ Explosives can supply own oxygen for combustion and smothering action of foam or dry chemical may be ineffective. ▶ Combustion or decomposition produces oxides of nitrogen (NOx), carbon monoxide (CO) and carbon dioxide (CO2). <p> Individual devices will randomly explode. Will not mass explode if multiple devices are involved. In unusual cases, shrapnel may be thrown from exploding devices under containment</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<p>WARNING!: EXPLOSIVE</p> <p>BLAST and/or PROJECTION and/or FIRE HAZARD</p> <ul style="list-style-type: none"> ▶ 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	<p>WARNING!: EXPLOSIVE</p> <ul style="list-style-type: none"> ▶ 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.

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

- ▶ 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	<ul style="list-style-type: none"> ▶ Avoid smoking, naked lights, heat or ignition sources <p>Must not be struck by metal implements. Avoid shock and friction. Avoid thermal shock. Under normal handling, no exposure to harmful materials will occur.</p>
Other information	<ul style="list-style-type: none"> ▶ 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 <p>NOTE: If explosives need to be destroyed contact the Competent Authority.</p>

Conditions for safe storage, including any incompatibilities

Suitable container	Packaging shall be in accordance to Packaging Instruction of the Australian Explosives Code (AEC).
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.



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	o-chlorobenzylidene malononitrile	o-Chlorobenzylidene malononitrile	Not Available	Not Available	0.39 mg/m ³ / 0.05 ppm	Sk
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
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
o-chlorobenzylidene malononitrile	Chlorobenzylidene malononitrile, o-; (Tear Gas)	Not Available	Not Available	Not Available
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
nitrocellulose	Pyroxylin; (Cellulose tetranitrate)	15 mg/m ³	170 mg/m ³	990 mg/m ³


Ingredient	Original IDLH	Revised IDLH
potassium chlorate	Not Available	Not Available
sucrose	Not Available	Not Available
o-chlorobenzylidene malononitrile	50 mg/m ³	25 mg/m ³

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

magnesium carbonate hydroxide	Not Available	Not Available
potassium nitrate	Not Available	Not Available
nitrocellulose	Not Available	Not Available
lead styphnate	700 mg/m3	100 mg/m3

MATERIAL DATA

Exposure controls

Appropriate engineering controls	<p>Engineering controls for explosive articles are designed to reduce or eliminate fragmentation and/or blast effects either by suppression of the source of detonation or by protection at the exposed location, or both. Barricades, shields, contained detonation chambers, and "zero quantity-distance (Q-D)" magazines are examples of engineering controls.</p> <p>Engineering controls are designed and tested in a rigorous fashion. The construction of the engineering control must be carefully duplicated in field applications to assure it will function properly.</p> <p>It is thus imperative that engineering controls be built exactly in accordance with the design package, and that they be used only for the articles (e.g. munitions) for which they are authorised.</p> <p> Normally used outdoors.</p>
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
Hands/feet protection	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC ▶ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit.
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:

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges Not Available

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	Solid dark grey metal container containing liquid and solid contents.		
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

Continued...

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

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 Applicable	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 open flame May detonate if case is punctured or severely damaged.
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. Exposure to CS gas usually results in incapacitation after approx 20 secs exposure. Symptoms are coughing, dizziness, difficulty in breathing, with chest constriction, sore eyes, runny nose, nausea and vomiting.
Ingestion	Not normally a hazard due to physical form of product.
Skin Contact	Not normally a hazard due to physical form of product. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
Eye	Not normally a hazard due to physical form of product. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Irritation of the eyes may produce a heavy secretion of tears (lacrimation).
Chronic	May cause damage to organs through prolonged or repeated exposure. Explosive components are completely sealed within the metal container. Under normal handling of this product, no exposure to harmful materials will occur.

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges	TOXICITY	IRRITATION
	Not Available	Not Available
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
o-chlorobenzylidene malononitrile	TOXICITY	IRRITATION
	Oral (rat) LD50: 178 mg/kg ^[2]	Eye (man): 0.00062 mg Std. Draize
		Eye (man): 5 mg/m ³ /20S. SEVERE
		g Skin (human): 10 mg/1H Mild
magnesium carbonate hydroxide	TOXICITY	IRRITATION
	Not Available	Not Available

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

potassium nitrate	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg ^[1] Oral (rat) LD50: >2000 mg/kg ^[1]	Nil reported
nitrocellulose	TOXICITY	IRRITATION
	Oral (rat) LD50: >5000 mg/kg ^[2]	Not Available
lead styphnate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Inhalation (rat) LC50: >5.05 mg/l4 h ^[1]	Not Available
	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	

O-CHLOROBENZYLIDENE MALONONITRILE	<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>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. In addition to the allergen-specific potential for causing respiratory sensitisation, the amount of the allergen, the exposure period and the genetically determined disposition of the exposed person are likely to be decisive. Factors which increase the sensitivity of the mucosa may play a role in predisposing a person to allergy. They may be genetically determined or acquired, for example, during infections or exposure to irritant substances. Immunologically the low molecular weight substances become complete allergens in the organism either by binding to peptides or proteins (haptens) or after metabolism (prohaptens). Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</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 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>The effect of CS on a person will depend on whether it is packaged as a solution or used as an aerosol. The size of solution droplets and the size of the CS particulates after evaporation are factors determining its effect on the human body. The chemical reacts with moisture on the skin and in the eyes, causing a burning sensation and the immediate forceful and uncontrollable shutting of the eyes. Effects usually include tears streaming from the eyes, coughing, running nose full of mucus, burning in the nose and throat areas, disorientation, dizziness and restricted breathing. It will also burn the skin where sweaty and or sunburned. In highly concentrated doses it can also induce severe coughing and vomiting. Almost all of the immediate effects wear off in a matter of minutes. Although described as a non-lethal weapon for crowd control, many studies have raised doubts about this classification. As well as creating severe pulmonary damage, CS can also significantly damage the heart and liver. Many reports have associated CS exposure with miscarriages. This is consistent with its reported clastogenic effect (abnormal chromosome change) on mammalian cells. When CS is metabolized, cyanide can be detected in human tissue. According to the United States Army Center for Health Promotion and Preventive Medicine, CS emits "very toxic fumes" when heated to decomposition, and at specified concentrations CS gas is an immediate danger to life and health. They also state that those exposed to CS gas should seek medical attention immediately.</p>		
LEAD STYPHNATE	<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>No significant acute toxicological data identified in literature search.</p>		
MAGNESIUM CARBONATE HYDROXIDE & NITROCELLULOSE	No significant acute toxicological data identified in literature search.		
Acute Toxicity	☐	Carcinogenicity	☐
Skin Irritation/Corrosion	✔	Reproductivity	☐
Serious Eye Damage/Irritation	✔	STOT - Single Exposure	✔

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

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
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
o-chlorobenzylidene malononitrile	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
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

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
potassium chlorate	HIGH	HIGH
sucrose	LOW	LOW
o-chlorobenzylidene malononitrile	HIGH	HIGH
potassium nitrate	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
potassium chlorate	LOW (LogKOW = -4.6296)
sucrose	LOW (LogKOW = -3.7)
o-chlorobenzylidene malononitrile	LOW (LogKOW = 2.7611)
potassium nitrate	LOW (LogKOW = 0.209)

Mobility in soil

Ingredient	Mobility
potassium chlorate	LOW (KOC = 35.04)
sucrose	LOW (KOC = 10)
o-chlorobenzylidene malononitrile	LOW (KOC = 1727)
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.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

HAZCHEM	Not Applicable
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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="1" style="width: 100%;"> <tr> <td style="width: 50%;">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="1" style="width: 100%;"> <tr> <td style="width: 50%;">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="1" style="width: 100%;"> <tr> <td style="width: 50%;">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="1" style="width: 100%;"> <tr> <td style="width: 50%;">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> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Forbidden</td> </tr> <tr> <td>Passenger and Cargo Limited 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	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden	Passenger and Cargo Limited 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														
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)	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">IMDG Class</td> <td>1.4G</td> </tr> <tr> <td>IMDG Subrisk</td> <td>Not Applicable</td> </tr> </table>	IMDG Class	1.4G	IMDG Subrisk	Not Applicable		
IMDG Class	1.4G						
IMDG Subrisk	Not Applicable						
Special precautions for user	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">EMS Number</td> <td>F-B , S-X</td> </tr> <tr> <td>Special provisions</td> <td>204</td> </tr> <tr> <td>Limited Quantities</td> <td>0</td> </tr> </table>	EMS Number	F-B , S-X	Special provisions	204	Limited Quantities	0
EMS Number	F-B , S-X						
Special provisions	204						
Limited Quantities	0						

SECTION 15 REGULATORY INFORMATION

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

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)

SUCROSE(57-50-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

O-CHLOROBENZYLIDENE MALONONITRILE(2698-41-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

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)

NITROCELLULOSE(9004-70-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Combined Systems MODEL 4233 40mm CS Multi (3) Smoke Cartridges

Australia Exposure Standards
Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)
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
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

National Inventory	Status
Australia - AICS	N (o-chlorobenzylidene malononitrile)
Canada - DSL	N (o-chlorobenzylidene malononitrile)
Canada - NDSL	N (lead styphnate; sucrose; magnesium carbonate hydroxide; nitrocellulose; potassium chlorate; potassium nitrate)
China - IECSC	N (lead styphnate; o-chlorobenzylidene malononitrile)
Europe - EINEC / ELINCS / NLP	N (nitrocellulose)
Japan - ENCS	N (sucrose; o-chlorobenzylidene malononitrile)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	N (lead styphnate; o-chlorobenzylidene malononitrile)
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
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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TEL (+61 3) 9572 4700.