

# Combined Systems MODEL 4230 40mm CS Smoke Cartridge

Winchester Australia Ltd

Chemwatch Hazard Alert Code: 4

Chemwatch: 5218-80

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Safety Data Sheet according to WHS and ADG requirements

L.GHS.AUS.EN

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

### Product Identifier

|                               |  |
|-------------------------------|--|
| Product name                  | Combined Systems MODEL 4230 40mm CS Smoke Cartridge                              |
| 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. |
|--------------------------|--|

### Details of the supplier of the safety data sheet

|                         |   |
|-------------------------|---|
| Registered company name | Winchester Australia Ltd                        |
| Address                 | 65 Hays Road Moolap, Geelong VIC 3224 Australia |
| Telephone               | +61 3 5245 2400                                 |
| Fax                     | +61 3 5248 2409                                 |
| Website                 | Not Available                                   |
| Email                   | aedmondson@olin.com.au                          |

### Emergency telephone number

|                                   |                          |
|-----------------------------------|--------------------------|
| Association / Organisation        | Winchester Australia Ltd |
| Emergency telephone numbers       | 0418 158 337 All hours   |
| Other emergency telephone numbers | Not Available            |

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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



#### CHEMWATCH HAZARD RATINGS

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 1   | 1   |
| Toxicity     | 1   | 1   |
| Body Contact | 2   | 2   |
| Reactivity   | 4   | 4   |
| Chronic      | 0   | 0   |

0 = Minimum  
 1 = Low  
 2 = Moderate  
 3 = High  
 4 = Extreme

|                    |   |
|--------------------|---|
| Poisons Schedule   | Not Applicable  |
| Classification [1] | Explosive Division 1.4, Self Reactive Type A, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Chronic Aquatic Hazard Category 3 |
| Legend:            | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI   |

### Label elements

|                     |   |
|---------------------|---|
| Hazard pictogram(s) |   |
|---------------------|---|

|             |               |
|-------------|---------------|
| SIGNAL WORD | <b>DANGER</b> |
|-------------|---------------|

### Hazard statement(s)

|      |                                 |
|------|---------------------------------|
| H204 | Fire or projection hazard.      |
| H240 | Heating may cause an explosion. |

Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|      |  |
|------|--|
| 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/sparks/open flames/hot surfaces. - No smoking.         |
| P234 | Keep only in original container.   |
| 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. |
| P220 | Keep/Store away from clothing/organic material/combustible materials.      |
| P240 | Ground/bond container and receiving equipment.                             |
| P261 | Avoid breathing dust/fumes.  |
| P273 | Avoid release to the environment.  |

Precautionary statement(s) Response

|                |  |
|----------------|--|
| P362           | Take off contaminated clothing and wash before reuse.  |
| P370+P380      | In case of fire: Evacuate area.  |
| P370+P380+P375 | In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.  |
| 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 or doctor/physician if you feel unwell.   |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P302+P352      | IF ON SKIN: Wash with plenty of soap and water.  |
| P304+P340      | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |
| P332+P313      | If skin irritation occurs: Get medical advice/attention.   |
| P370+P378      | In case of fire: Use water spray/fog for extinction.   |

Precautionary statement(s) Storage

|           |  |
|-----------|--|
| P403+P235 | Store in a well-ventilated place. Keep cool.                                     |
| P405      | Store locked up.   |
| P411      | Store at temperatures not exceeding 30°C/86°F (see storage requirements on SDS). |
| P401      | Store according to local regulations for explosives.                             |
| P420      | Store away from other materials.   |

Precautionary statement(s) Disposal

|      |   |
|------|---|
| P501 | Dispose of contents/container in accordance with local regulations. |
|------|---|

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>                    |
| 7440-21-3  | <10       | <u>silicon</u>                           |
| 63918-97-8 | <0.1      | <u>lead styphnate</u>                    |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

|             |   |
|-------------|---|
| Eye Contact | If this product comes in contact with the eyes: |
|-------------|---|

## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|                     |  |
|---------------------|--|
|                     | <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ 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.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>   |
| <b>Skin Contact</b> | <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>  |
| <b>Inhalation</b>   | <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> <li>▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>▶ 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.</li> <li>▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b><br/>(ICSC13719)</p> |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ Not considered a normal route of entry.</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>▶ Seek medical advice.</li> </ul>  |

### 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

|                             |  |
|-----------------------------|--|
| <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> |
|-----------------------------|--|

### 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 detonate and burning material may be propelled from fire.</li> <li>▶ Wear full-body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage and fire effluent from entering drains and water courses.</li> <li>▶ Fight fire from safe distances and from protected locations.</li> <li>▶ Use flooding quantities of water.</li> <li>▶ <b>DO NOT</b> approach containers or packages suspected to be hot.</li> <li>▶ Cool any exposed containers not involved in fire from a protected location.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul> |
| <b>Fire/Explosion Hazard</b> | <p><b>WARNING: EXPLOSION HAZARD!</b></p> <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Detonation may occur from heavy impact or excessive heating.</li> <li>▶ Mixing with incompatible chemicals may cause expansion, decomposition or detonation.</li> <li>▶ Heat affected containers remain hazardous.</li> <li>▶ Explosives can supply own oxygen for combustion and smothering action of foam or dry chemical may be ineffective.</li> <li>▶ Combustion or decomposition produces oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>).</li> </ul> <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>  |
| <b>HAZCHEM</b>               | 1YE  |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

|                     |   |
|---------------------|---|
| <b>Minor Spills</b> | <p><b>WARNING!: EXPLOSIVE.</b></p> <p>BLAST and/or PROJECTION and/or FIRE HAZARD</p> <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> </ul> |
|---------------------|---|

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## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|                     |   |
|---------------------|---|
|                     | <ul style="list-style-type: none"> <li>▶ Avoid inhalation of the material and avoid contact with eyes and skin.</li> <li>▶ Wear impervious gloves and safety glasses.</li> <li>▶ Remove all ignition sources.</li> <li>▶ Use spark-free tools when handling.</li> <li>▶ Sweep into non-sparking containers or barrels and moisten with water.</li> <li>▶ Place spilled material in clean, sealable, labelled container for disposal.</li> <li>▶ Flush area with large amounts of water.</li> </ul>  |
| <b>Major Spills</b> | <p><b>WARNING: EXPLOSIVE.</b></p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ In case of transport accident notify Police, Emergency Authority, Competent Explosives Authority or Manufacturer.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ Increase ventilation.</li> <li>▶ Use extreme caution to prevent physical shock.</li> <li>▶ Use only spark-free shovels and explosion-proof equipment.</li> <li>▶ Collect recoverable material and segregate from spilled material.</li> <li>▶ Wash spill area with large quantities of water.</li> </ul> |

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

|                          |  |
|--------------------------|--|
| <b>Safe handling</b>     | <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.<br/>Avoid shock and friction.<br/>Avoid thermal shock.<br/>(Under normal handling, no exposure to harmful materials will occur.</p>   |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store cases in a well ventilated magazine licensed for the appropriate Class, Division and Compatibility Group.</li> <li>▶ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Store in a cool place in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ Store in an isolated area away from other materials.</li> <li>▶ Keep storage area free of debris, waste and combustibles.</li> <li>▶ Protect containers against physical damage.</li> <li>▶ Check regularly for spills and leaks</li> </ul> <p><b>NOTE:</b> If explosives need to be destroyed contact the Competent Authority.</p> |

### Conditions for safe storage, including any incompatibilities

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | Packaging shall be in accordance to Packaging Instruction of the Australian Explosives Code (AEC).   |
| <b>Storage incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Reacts with acids producing flammable / explosive hydrogen (H2) gas</li> <li>▶ Avoid reaction with oxidising agents</li> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> </ul> |



X            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                           | 10 mg/m3      | Not Available | Not Available         | (a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica. |
| Australia Exposure Standards | o-chlorobenzylidene malononitrile | o-Chlorobenzylidene malononitrile | Not Available | Not Available | 0.05 ppm / 0.39 mg/m3 | Not Available  |
| Australia Exposure Standards | silicon                           | Silicon                           | 10 mg/m3      | Not Available | Not Available         | (a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica. |

#### EMERGENCY LIMITS

| Ingredient         | Material name      | TEEL-1    | TEEL-2   | TEEL-3    |
|--------------------|--------------------|-----------|----------|-----------|
| potassium chlorate | Potassium chlorate | 5.6 mg/m3 | 62 mg/m3 | 370 mg/m3 |

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## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|                                   |   |                      |                       |                         |
|-----------------------------------|---|----------------------|-----------------------|-------------------------|
| o-chlorobenzylidene malononitrile | Chlorobenzylidene malononitrile, o-; (Tear Gas) | Not Available        | Not Available         | Not Available           |
| magnesium carbonate hydroxide     | Magnesium carbonate hydroxide                   | 30 mg/m <sup>3</sup> | 330 mg/m <sup>3</sup> | 2,000 mg/m <sup>3</sup> |
| potassium nitrate                 | Potassium nitrate                               | 9 mg/m <sup>3</sup>  | 100 mg/m <sup>3</sup> | 600 mg/m <sup>3</sup>   |
| silicon                           | Silicon   | 45 mg/m <sup>3</sup> | 100 mg/m <sup>3</sup> | 630 mg/m <sup>3</sup>   |

| Ingredient                        | Original IDLH         | Revised IDLH  |
|-----------------------------------|-----------------------|---------------|
| potassium chlorate                | Not Available         | Not Available |
| sucrose                           | Not Available         | Not Available |
| o-chlorobenzylidene malononitrile | 2 mg/m <sup>3</sup>   | Not Available |
| magnesium carbonate hydroxide     | Not Available         | Not Available |
| potassium nitrate                 | Not Available         | Not Available |
| nitrocellulose                    | Not Available         | Not Available |
| silicon                           | Not Available         | Not Available |
| lead styphnate                    | 100 mg/m <sup>3</sup> | Not Available |

### MATERIAL DATA

#### Exposure controls

|   |  |
|---|--|
| <b>Appropriate engineering controls</b> | <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>   |
| <b>Personal protection</b>              |    |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Chemical goggles.</li> <li>▶ Full face shield may be required for supplementary but never for primary protection of eyes.</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. 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]</li> </ul> |
| <b>Skin protection</b>                  | See Hand protection below  |
| <b>Hands/feet protection</b>            | <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>   |
| <b>Body protection</b>                  | See Other protection below   |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C. apron.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eye wash unit.</li> </ul>  |

#### Respiratory protection

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- ▶ The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- ▶ Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- ▶ Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- ▶ Try to avoid creating dust conditions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|                         |   |  |                |
|-------------------------|---|--|----------------|
| <b>Appearance</b>       | Solid dark grey metal container containing liquid and solid contents. |  |                |
| <b>Physical state</b>   | Manufactured  | <b>Relative density (Water = 1)</b>            | Not Applicable |
| <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>          | Not Available  |
| <b>pH (as supplied)</b> | Not Applicable  | <b>Decomposition temperature</b>               | Not Available  |

## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|  |                |                                  |                |
|--|----------------|----------------------------------|----------------|
| 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                          | 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"> <li>▶ Presence of shock and friction</li> <li>▶ Presence of open flame</li> </ul>  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.<br> 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.<br>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.<br>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>Irritation of the eyes may produce a heavy secretion of tears (lachrymation).  |
| 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 4230 40mm CS Smoke Cartridge | TOXICITY                                      | IRRITATION  |
|---|---|---|
|   | Not Available                                 | Not Available   |
| potassium chlorate                                  | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup> | Not Available   |
|   | Oral (rat) LD50: 1870 mg/kg <sup>[2]</sup>    |   |
| sucrose   | TOXICITY                                      | IRRITATION  |
|   | Oral (rat) LD50: 29700 mg/kg <sup>[2]</sup>   | Not Available   |
| o-chlorobenzylidene malononitrile                   | TOXICITY                                      | IRRITATION  |
|   | Oral (rat) LD50: 178 mg/kg <sup>[2]</sup>     | Eye (man): 0.00062 mg Std. Draize                         |
|   |   | Eye (man): 5 mg/m <sup>3</sup> /20S. SEVERE               |
|   |   | Eye: adverse effect observed (irritating) <sup>[1]</sup>  |
|   |   | Skin (human): 10 mg/1H Mild                               |
|   |   | Skin: adverse effect observed (irritating) <sup>[1]</sup> |
| magnesium carbonate hydroxide                       | TOXICITY                                      | IRRITATION  |
|   | Not Available                                 | Not Available   |

## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|                          |   |   |
|--------------------------|---|---|
| <b>potassium nitrate</b> | <b>TOXICITY</b>   | <b>IRRITATION</b>   |
|                          | dermal (rat) LD50: >5000 mg/kg <sup>[1]</sup><br>Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>      | Not Available   |
| <b>nitrocellulose</b>    | <b>TOXICITY</b>   | <b>IRRITATION</b>   |
|                          | Oral (rat) LD50: >5000 mg/kg <sup>[2]</sup>   | Not Available   |
| <b>silicon</b>           | <b>TOXICITY</b>   | <b>IRRITATION</b>   |
|                          | Oral (rat) LD50: >50-300 mg/kg <sup>[1]</sup>   | Eye: no adverse effect observed (not irritating) <sup>[1]</sup><br>Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| <b>lead styphnate</b>    | <b>TOXICITY</b>   | <b>IRRITATION</b>   |
|                          | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>   | Not Available   |
|                          | Inhalation (rat) LC50: >5.05 mg/4 h <sup>[1]</sup><br>Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup> |   |

**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

|  |  |
|--|--|
| <b>SUCROSE</b>   | Oral (Human) TDLo: 9.6E-5 mg/kg  |
| <b>O-CHLOROBENZYLIDENE MALONONITRILE</b>   | <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>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> |
| <b>SILICON</b>   | <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>   |
| <b>O-CHLOROBENZYLIDENE MALONONITRILE &amp; LEAD STYPHNATE</b>                                | <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>   |
| <b>O-CHLOROBENZYLIDENE MALONONITRILE &amp; SILICON</b>                                       | <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>  |
| <b>MAGNESIUM CARBONATE HYDROXIDE &amp; NITROCELLULOSE &amp; SILICON &amp; LEAD STYPHNATE</b> | No significant acute toxicological data identified in literature search.   |

## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| 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 either not available or does not fill the criteria for classification  
 ✔ – Data available to make classification

### SECTION 12 ECOLOGICAL INFORMATION

#### Toxicity

| Combined Systems MODEL<br>4230 40mm CS Smoke<br>Cartridge | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|---|---------------|-------------------------------|-------------------------------|-----------------|---------------|
|   | Not Available | Not Available                 | Not Available                 | Not Available   | Not Available |
| potassium chlorate  | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | LC50          | 96                            | Fish                          | >1-mg/L         | 2             |
|   | EC50          | 48                            | Crustacea                     | >1-mg/L         | 2             |
|   | EC50          | 72                            | Algae or other aquatic plants | >1-mg/L         | 2             |
|   | EC10          | 72                            | Algae or other aquatic plants | >1-mg/L         | 2             |
| NOEC  | 72            | Algae or other aquatic plants | <0.5mg/L                      | 4               |               |
| sucrose   | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | LC50          | 96                            | Fish                          | 2200000mg/L     | 3             |
| EC50  | 96            | Algae or other aquatic plants | 6020000mg/L                   | 3               |               |
| o-chlorobenzylidene<br>malononitrile                      | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | LC50          | 96                            | Fish                          | 0.22mg/L        | 4             |
|   | EC50          | 48                            | Crustacea                     | ca.0.244mg/L    | 2             |
| EC50  | 72            | Algae or other aquatic plants | ca.1.663mg/L                  | 2               |               |
| magnesium carbonate<br>hydroxide                          | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | Not Available | Not Available                 | Not Available                 | Not Available   | Not Available |
| potassium nitrate   | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | LC50          | 96                            | Fish                          | 1-378mg/L       | 2             |
|   | EC50          | 48                            | Crustacea                     | 490mg/L         | 2             |
|   | EC50          | 96                            | Algae or other aquatic plants | 1181.887mg/L    | 3             |
| NOEC  | 720           | Fish                          | 58mg/L                        | 2               |               |
| nitrocellulose  | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | EC50          | 96                            | Algae or other aquatic plants | 579mg/L         | 4             |
| silicon   | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | EC50          | 48                            | Crustacea                     | ca.35.4mg/L     | 2             |
|   | EC50          | 72                            | Algae or other aquatic plants | >100mg/L        | 2             |
| NOEC  | 72            | Algae or other aquatic plants | ca.3.2mg/L                    | 2               |               |
| lead styphnate  | ENDPOINT      | TEST DURATION (HR)            | SPECIES                       | VALUE           | SOURCE        |
|   | LC50          | 96                            | Fish                          | 0.001-mg/L      | 2             |
|   | EC50          | 48                            | Crustacea                     | 0.38mg/L        | 2             |
|   | EC50          | 96                            | Algae or other aquatic plants | 0.002-0.655mg/L | 2             |
| NOEC  | 96            | Algae or other aquatic plants | 0.001-0.3mg/L                 | 2               |               |

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

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

#### Persistence and degradability

| Ingredient         | Persistence: Water/Soil | Persistence: Air |
|--------------------|-------------------------|------------------|
| potassium chlorate | HIGH                    | HIGH             |

Continued...



## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|                                   |      |      |
|-----------------------------------|------|------|
| 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

|                                     |  |
|-------------------------------------|--|
| <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> |
|-------------------------------------|--|

## SECTION 14 TRANSPORT INFORMATION

### Labels Required

|   |     |
|---|-----|
|  |     |
| <b>Marine Pollutant</b>   | NO  |
| <b>HAZCHEM</b>  | 1YE |

### Land transport (ADG)

|                                     |   |                    |      |                  |                |
|-------------------------------------|---|--------------------|------|------------------|----------------|
| <b>UN number</b>                    | 0303  |                    |      |                  |                |
| <b>UN proper shipping name</b>      | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge  |                    |      |                  |                |
| <b>Transport hazard class(es)</b>   | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 150px;">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  |                    |      |                  |                |
| <b>Packing group</b>                | Not Applicable  |                    |      |                  |                |
| <b>Environmental hazard</b>         | Not Applicable  |                    |      |                  |                |
| <b>Special precautions for user</b> | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 150px;">Special provisions</td> <td>204</td> </tr> <tr> <td>Limited quantity</td> <td>Not Applicable</td> </tr> </table> | Special provisions | 204  | Limited quantity | Not Applicable |
| Special provisions                  | 204   |                    |      |                  |                |
| Limited quantity                    | Not Applicable  |                    |      |                  |                |

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

|                                     |   |                    |      |                                 |                |          |    |
|-------------------------------------|---|--------------------|------|---------------------------------|----------------|----------|----|
| <b>UN number</b>                    | 0303  |                    |      |                                 |                |          |    |
| <b>UN proper shipping name</b>      | Ammunition, smoke with or without burster, expelling charge or propelling charge  |                    |      |                                 |                |          |    |
| <b>Transport hazard class(es)</b>   | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 150px;">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  |                    |      |                                 |                |          |    |
| <b>Packing group</b>                | Not Applicable  |                    |      |                                 |                |          |    |
| <b>Environmental hazard</b>         | Not Applicable  |                    |      |                                 |                |          |    |
| <b>Special precautions for user</b> | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 150px;">Special provisions</td> <td>A132</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>130</td> </tr> </table>                                      | Special provisions | A132 | Cargo Only Packing Instructions | 130            |          |    |
| Special provisions                  | A132  |                    |      |                                 |                |          |    |
| Cargo Only Packing Instructions     | 130   |                    |      |                                 |                |          |    |

## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

|   |           |
|---|-----------|
| 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)

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

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## 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 Dangerous Goods Code (ADG Code) - Dangerous Goods List                                     | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2 |
| Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes                           | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5 |
| Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals                         | International Air Transport Association (IATA) Dangerous Goods Regulations                  |
| Australia Inventory of Chemical Substances (AICS)  | International Maritime Dangerous Goods Requirements (IMDG Code)                             |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2) | United Nations Recommendations on the Transport of Dangerous Goods Model Regulations        |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index               |   |

#### 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 Dangerous Goods Code (ADG Code) - Dangerous Goods List                                     | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index |
| Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes                           | International Air Transport Association (IATA) Dangerous Goods Regulations             |
| Australia Exposure Standards   | International Maritime Dangerous Goods Requirements (IMDG Code)                        |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2) | United Nations Recommendations on the Transport of Dangerous Goods Model Regulations   |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix J (Part 2) |  |

#### MAGNESIUM CARBONATE HYDROXIDE(7760-50-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

|  |   |
|--|---|
| Australia Inventory of Chemical Substances (AICS)  | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2) | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5               |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3) | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6               |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index               |   |

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

|  |  |
|--|--|
| Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List                                     | International Air Transport Association (IATA) Dangerous Goods Regulations           |
| Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes                           | International Maritime Dangerous Goods Requirements (IMDG Code)                      |
| Australia Inventory of Chemical Substances (AICS)  | United Nations Recommendations on the Transport of Dangerous Goods Model Regulations |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2) |  |

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

|   |   |
|---|---|
| Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List                            | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index                                    |
| Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported           | International Air Transport Association (IATA) Dangerous Goods Regulations  |
| Australia Explosives Code (AE Code)   | International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |
| Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals                | International Maritime Dangerous Goods Requirements (IMDG Code)   |
| Australia Inventory of Chemical Substances (AICS)   | United Nations Recommendations on the Transport of Dangerous Goods Model Regulations                                      |
| Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix A |   |

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

Continued...

## Combined Systems MODEL 4230 40mm CS Smoke Cartridge

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

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

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List

Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported

Australia Explosives Code (AE Code)

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

International Maritime Dangerous Goods Requirements (IMDG Code)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

### National Inventory Status

| National Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | No (o-chlorobenzylidene malononitrile)   |
| Canada - DSL                  | No (o-chlorobenzylidene malononitrile)   |
| Canada - NDSL                 | No (lead styphnate; sucrose; magnesium carbonate hydroxide; nitrocellulose; silicon; potassium chlorate; potassium nitrate)  |
| China - IECSC                 | No (lead styphnate; o-chlorobenzylidene malononitrile)   |
| Europe - EINEC / ELINCS / NLP | No (nitrocellulose)  |
| Japan - ENCS                  | No (sucrose; silicon; o-chlorobenzylidene malononitrile)   |
| Korea - KECI                  | Yes  |
| New Zealand - NZIoC           | Yes  |
| Philippines - PICCS           | No (lead styphnate; o-chlorobenzylidene malononitrile)   |
| USA - TSCA                    | Yes  |
| Taiwan - TCSI                 | No (o-chlorobenzylidene malononitrile)   |
| Mexico - INSQ                 | No (magnesium carbonate hydroxide)   |
| Vietnam - NCI                 | No (lead styphnate; o-chlorobenzylidene malononitrile)   |
| Russia - ARIPS                | No (lead styphnate; magnesium carbonate hydroxide)   |
| Thailand - TECL               | No (lead styphnate; magnesium carbonate hydroxide)   |
| <b>Legend:</b>                | Yes = All CAS declared ingredients are on the inventory<br>No = 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

|                      |               |
|----------------------|---------------|
| <b>Revision Date</b> | 10/08/2016    |
| <b>Initial Date</b>  | Not Available |

### SDS Version Summary

| Version | Issue Date | Sections Updated |
|---------|------------|------------------|
| 2.1.1.1 | 10/08/2016 | Classification   |

### Other information

#### Ingredients with multiple cas numbers

| Name                          | CAS No   |
|-------------------------------|--|
| magnesium carbonate hydroxide | 7760-50-1, 12072-90-1  |
| silicon                       | 7440-21-3, 152284-21-4, 157383-37-4, 160371-18-6, 17375-03-0, 71536-23-7, 72516-01-9, 72516-02-0, 72516-03-1, 90337-93-2 |
| lead styphnate                | 63918-97-8, 15245-44-0, 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.

The 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.

### Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average

PC – STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

Continued...

TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index

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