

# Combined Systems Model 9590 Grenade Sting Ball .314 Pellets

Winchester Australia Ltd

Chemwatch Hazard Alert Code: 4

Chemwatch: 5239-40

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Safety Data Sheet according to WHS and ADG requirements

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

### Product Identifier

Product name	Combined Systems Model 9590 Grenade Sting Ball .314 Pellets
Synonyms	Not Available
Proper shipping name	GRENADES, PRACTICE, hand or rifle
Other means of identification	Not Available

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

Relevant identified uses	Explosive product.
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### 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	0	0
Body Contact	0	0
Reactivity	4	4
Chronic	0	0

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

Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Explosive Division 1.4, Self Reactive Type A
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)	
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SIGNAL WORD **DANGER**

### Hazard statement(s)

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

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### 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.
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.

### Precautionary statement(s) Response

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.
P373	DO NOT fight fire when fire reaches explosives.
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.
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.
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## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
7778-74-7	>50	<u>potassium perchlorate</u>
7439-95-4	10-25	<u>magnesium powder, pyrophoric</u>
7429-90-5	10-25	<u>aluminium powder uncoated</u>
10294-40-3	<10	<u>barium chromate</u>
7440-67-7	<10	<u>zirconium</u>
1309-37-1	<10	<u>ferric oxide</u>
7440-32-6	<10	<u>titanium</u>
7440-02-0	<10	<u>nickel</u>
592-87-0	0-0.1	<u>lead thiocyanate</u>
Not Available	balance	Ingredients determined not to be hazardous

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <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> </ul>
<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> </ul>

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- ▶ 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	None known.
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### Advice for firefighters

Fire Fighting	<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>
Fire/Explosion Hazard	<p>Division 1.4 Substances, mixtures and articles which present no significant hazard: substances, mixtures and articles which present only a small hazard in the event of ignition or initiation. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package.</p> <p>Compatibility Group G explosives are pyrotechnic substances, or article containing a pyrotechnic substances, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one containing white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel, or hypergolic liquids).</p> <p>Decomposes on heating and produces toxic fumes of:  carbon monoxide (CO)  carbon dioxide (CO<sub>2</sub>)  nitrogen oxides (NO<sub>x</sub>)  metal oxides   Individual items may explode. Mass explosion of many items at once is unlikely. In unusual cases, shrapnel may be thrown from exploding devices under containment</p>
HAZCHEM	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

Minor Spills	<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> <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>
Major Spills	<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.

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**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Handle gently. Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Avoid smoking, naked lights, heat or ignition sources.</li> <li>▶ Explosives must not be struck with metal implements.</li> <li>▶ Avoid mechanical and thermal shock and friction.</li> <li>▶ Use in a well ventilated area.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling DO NOT eat, drink or smoke.</b></li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately.</li> </ul>
<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>	<ul style="list-style-type: none"> <li>▶ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods.</li> <li>▶ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Explosion hazard may follow contact with incompatible materials</li> <li>▶ Avoid reaction with oxidising agents</li> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. strong alkalis</li> </ul>



X + X X X X X X

X — Must not be stored together  
0 — May be stored together with specific precautions  
+ — 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	aluminium powder uncoated	Aluminium (welding fumes) (as Al)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium powder uncoated	Aluminium (metal dust)	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium powder uncoated	Aluminium, pyro powders (as Al)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	barium chromate	Chromium (VI) compounds (as Cr), certain water insoluble	0.05 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	ferric oxide	Iron oxide fume (Fe2O3) (as Fe)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	nickel	Nickel, metal	1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	nickel	Nickel, powder	1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	lead thiocyanate	Lead, inorganic dusts & fumes (as Pb)	0.05 mg/m3	Not Available	Not Available	Not Available

**EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
potassium perchlorate	Potassium perchlorate	6.3 mg/m3	69 mg/m3	420 mg/m3
magnesium powder, pyrophoric	Magnesium	18 mg/m3	200 mg/m3	1,200 mg/m3
barium chromate	Barium chromate	0.15 mg/m3	13 mg/m3	77 mg/m3


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zirconium	Zirconium	10 mg/m3	83 mg/m3	500 mg/m3
ferric oxide	Iron oxide; (Ferric oxide)	15 mg/m3	360 mg/m3	2,200 mg/m3
titanium	Titanium	30 mg/m3	330 mg/m3	2,000 mg/m3
nickel	Nickel	4.5 mg/m3	50 mg/m3	99 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium perchlorate	Not Available	Not Available
magnesium powder, pyrophoric	500 mg/m3	Not Available
aluminium powder uncoated	Not Available	Not Available
barium chromate	Not Available	Not Available
zirconium	Not Available	Not Available
ferric oxide	2,500 mg/m3	Not Available
titanium	Not Available	Not Available
nickel	Not Available	Not Available
lead thiocyanate	100 mg/m3	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>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses.</li> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. 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>	<p>Wear physical protective gloves, e.g. leather</p> <ul style="list-style-type: none"> <li>▶ Heavy weight Rubber gloves</li> <li>▶ Rubber boots <ul style="list-style-type: none"> <li>• Non-sparking or conductive footwear essential. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.</li> </ul> </li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<p>For handling explosives or explosive compositions:</p> <ul style="list-style-type: none"> <li>▶ Wear close-fitting flame-protection treated clothing closed at the neck and sleeves.</li> <li>▶ Cotton underwear, socks and conductive shoes are recommended to avoid human static discharge.</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>	Dark grey solid metal container with solid contents.		
<b>Physical state</b>	Manufactured	<b>Relative density (Water = 1)</b>	Not Applicable

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<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
<b>Melting point / freezing point (°C)</b>	Not Applicable	<b>Viscosity (cSt)</b>	Not Applicable
<b>Initial boiling point and boiling range (°C)</b>	Not Applicable	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Applicable	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Applicable	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Applicable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Applicable	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Applicable
<b>Lower Explosive Limit (%)</b>	Not Applicable	<b>Volatile Component (%vol)</b>	Not Applicable
<b>Vapour pressure (kPa)</b>	Not Applicable	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Not Applicable	<b>pH as a solution (1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	Not Applicable	<b>VOC g/L</b>	Not Applicable

### SECTION 10 STABILITY AND REACTIVITY

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

### SECTION 11 TOXICOLOGICAL INFORMATION

#### Information on toxicological effects

<b>Inhaled</b>	Not normally a hazard due to physical form of product.
<b>Ingestion</b>	Not normally a hazard due to physical form of product.
<b>Skin Contact</b>	Not normally a hazard due to physical form of product.
<b>Eye</b>	Not normally a hazard due to physical form of product.
<b>Chronic</b>	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.

<b>Combined Systems Model 9590 Grenade Sting Ball .314 Pellets</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>potassium perchlorate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Eye: adverse effect observed (irritating) <sup>[1]</sup> Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>magnesium powder, pyrophoric</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available
<b>aluminium powder uncoated</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup> Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>barium chromate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup> Oral (rat) LD50: 52 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup> Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>zirconium</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irreversible damage) <sup>[1]</sup>

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	Oral (rat) LD50: >300-2000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
ferric oxide	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >10000 mg/kg <sup>[2]</sup>	Not Available
titanium	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available
nickel	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: 5000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
lead thiocyanate	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

**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>BARIUM CHROMATE</b>	<b>WARNING:</b> This substance has been classified by the IARC as Group 1: <b>CARCINOGENIC TO HUMANS.</b>
<b>FERRIC OXIDE</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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.
<b>NICKEL</b>	<b>WARNING:</b> This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002] Oral (rat) TDL: 500 mg/kg/5D-I Inhalation (rat) TCL: 0.1 mg/m <sup>3</sup> /24H/17W-C
<b>POTASSIUM PERCHLORATE &amp; MAGNESIUM POWDER, PYROPHORIC &amp; ALUMINIUM POWDER UNCOATED &amp; ZIRCONIUM &amp; TITANIUM &amp; LEAD THIOCYANATE</b>	No significant acute toxicological data identified in literature search.
<b>BARIUM CHROMATE &amp; NICKEL</b>	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.

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 9590 Grenade Sting Ball .314 Pellets	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

potassium perchlorate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	48	Crustacea	>100mg/L	2
	EC50	72	Algae or other aquatic plants	>100mg/L	2

Continued...

### Combined Systems Model 9590 Grenade Sting Ball .314 Pellets

	EC10	72	Algae or other aquatic plants	>100mg/L	2
	NOEC	2016	Fish	11.48mg/L	2
magnesium powder, pyrophoric	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	1-595mg/L	2
	EC50	48	Crustacea	344mg/L	2
	EC50	72	Algae or other aquatic plants	1-195mg/L	2
	NOEC	96	Crustacea	1-mg/L	2
aluminium powder uncoated	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	0.001-0.134mg/L	2
	EC50	48	Crustacea	0.7364mg/L	2
	EC50	72	Algae or other aquatic plants	0.001-0.799mg/L	2
	BCF	360	Algae or other aquatic plants	9mg/L	4
NOEC	168	Crustacea	0.001-mg/L	2	
barium chromate	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	>=3.3mg/L	2
	EC50	96	Algae or other aquatic plants	0.32mg/L	2
NOEC	72	Algae or other aquatic plants	>=1.15mg/L	2	
zirconium	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	>20mg/L	2
	EC50	48	Crustacea	>100mg/L	2
	EC50	72	Algae or other aquatic plants	>0.042mg/L	2
NOEC	72	Algae or other aquatic plants	0.004mg/L	2	
ferric oxide	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	0.05mg/L	2
	EC50	48	Crustacea	5.11mg/L	2
	EC50	72	Algae or other aquatic plants	18mg/L	2
NOEC	504	Fish	0.52mg/L	2	
titanium	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	>1-mg/L	2
	EC50	48	Crustacea	>1-mg/L	2
	EC50	72	Algae or other aquatic plants	>10-mg/L	2
NOEC	0.5	Crustacea	0.00000005mg/L	2	
nickel	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	LC50	96	Fish	0.000475mg/L	4
	EC50	48	Crustacea	0.001-0.576mg/L	2
	EC50	72	Algae or other aquatic plants	0.00094mg/L	2
	BCF	1440	Algae or other aquatic plants	0.47mg/L	4
NOEC	240	Crustacea	>0.001-0.715mg/L	2	
lead thiocyanate	<b>ENDPOINT</b>	<b>TEST DURATION (HR)</b>	<b>SPECIES</b>	<b>VALUE</b>	<b>SOURCE</b>
	NOEC	2976	Fish	1.1mg/L	5

**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
	No Data available for all ingredients	No Data available for all ingredients

#### Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Continued...



## Combined Systems Model 9590 Grenade Sting Ball .314 Pellets

### Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

## SECTION 13 DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <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>▶ Explosives must not be thrown away, buried, discarded or placed with garbage.</li> <li>▶ This material may be disposed of by burning or detonation but the operation must be performed under the control of a person competent in the destruction of explosives.</li> </ul> <p>Disposal by detonation:</p> <ul style="list-style-type: none"> <li>▶ The explosives to be destroyed must be placed in direct contact with fresh priming charge in a hole which is at least 0.6 metre deep and then adequately stemmed.</li> <li>▶ No detonators shall be inserted into defective explosives.</li> <li>▶ Personnel must be evacuated to a safe distance prior to initiation/firing of the charge.</li> </ul> <p>Disposal by burning:</p> <ul style="list-style-type: none"> <li>▶ Make a sawdust bed or trail adequate for the quantity of explosives to be burned, approximately 400 mm wide and 40 mm deep, upon which the explosive will be laid.</li> <li>▶ If sawdust is not available, newspaper may be used.</li> <li>▶ Normal precautions shall be taken to avoid the spread of fire.</li> <li>▶ Individual trails should not be closer together than 600 mm and should contain not more than 12 kg of explosive.</li> <li>▶ Trails should be side by side, NOT in-line, and not more than four should be set up at one time.</li> <li>▶ Remove any explosive that is not to be burnt to a distance of at least 300 metre.</li> <li>▶ Sufficient diesel oil (never petrol or other highly flammable liquid) should be used to thoroughly wet the sawdust (or paper) at least 4 litre per trail is recommended.</li> <li>▶ Light the trail from a long, rolled paper wick which should be placed downwind and in contact with the end 1m of trail that is not covered with explosive. The wind should blow so that the flame from the wick (and later from the burning explosive) will blow away from the unburned explosive as detonation is more likely to occur if the explosive is preheated by the flame.</li> <li>▶ If plastic igniter cord (slow) is available, its use for lighting is recommended instead of paper. One end should be coiled into the sawdust or under the paper and the other end lit from a minimum distance of 7m from the trail.</li> <li>▶ Retire at least 300m or to a safe place.</li> <li>▶ <b>DO NOT return to the site for at least 30 minutes after the burning has apparently finished.</b></li> <li>▶ If the fire goes out do not approach for at least 15 minutes after all trace of fire has gone.</li> <li>▶ <b>DO NOT add more diesel oil unless certain that the flame is completely extinguished.</b></li> </ul> <p>[DYN0]</p>
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## SECTION 14 TRANSPORT INFORMATION

### Labels Required

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

### Land transport (ADG)

<b>UN number</b>	0452				
<b>UN proper shipping name</b>	GRENADES, PRACTICE, hand or rifle				
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Class</td> <td style="padding-left: 5px;">1.4G</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Subrisk</td> <td style="padding-left: 5px;">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="border-right: 1px dashed black; padding-right: 5px;">Special provisions</td> <td style="padding-left: 5px;">Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">Limited quantity</td> <td style="padding-left: 5px;">Not Applicable</td> </tr> </table>	Special provisions	Not Applicable	Limited quantity	Not Applicable
Special provisions	Not Applicable				
Limited quantity	Not Applicable				

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

<b>UN number</b>	0452						
<b>UN proper shipping name</b>	Grenades, practice hand or rifle						
<b>Transport hazard class(es)</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO/IATA Class</td> <td style="padding-left: 5px;">1.4G</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ICAO / IATA Subrisk</td> <td style="padding-left: 5px;">Not Applicable</td> </tr> <tr> <td style="border-right: 1px dashed black; padding-right: 5px;">ERG Code</td> <td style="padding-left: 5px;">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						

## Combined Systems Model 9590 Grenade Sting Ball .314 Pellets

<b>Special precautions for user</b>	Special provisions	Not Applicable
	Cargo Only Packing Instructions	141
	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>	0452	
<b>UN proper shipping name</b>	GRENADES, PRACTICE hand or rifle	
<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	Not Applicable
	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 PERCHLORATE(7778-74-7) 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 4
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	
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) - Index	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

#### MAGNESIUM POWDER, PYROPHORIC(7439-95-4) 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 Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
Australia Inventory of Chemical Substances (AICS)	

#### ALUMINIUM POWDER UNCOATED(7429-90-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	Australia Inventory of Chemical Substances (AICS)
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 Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

#### BARIUM CHROMATE(10294-40-3) 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	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Part 2, Section Seven - Appendix I
Australia Explosives Code (AE Code)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Exposure Standards	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
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

#### ZIRCONIUM(7440-67-7) 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 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

#### FERRIC OXIDE(1309-37-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

## Combined Systems Model 9590 Grenade Sting Ball .314 Pellets

Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Inventory of Chemical Substances (AICS)	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	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4	
<b>TITANIUM(7440-32-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS</b>	
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
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
International Air Transport Association (IATA) Dangerous Goods Regulations	
<b>NICKEL(7440-02-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS</b>	
Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
Australia Hazardous chemicals which may require Health Monitoring	
<b>LEAD THIOCYANATE(592-87-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS</b>	
Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
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 Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
Australia Inventory of Chemical Substances (AICS)	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index	

### National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	No (lead thiocyanate)
Canada - NDSL	No (barium chromate; titanium; zirconium; nickel; ferric oxide; potassium perchlorate; magnesium powder, pyrophoric; aluminium powder uncoated)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (titanium; zirconium; nickel; magnesium powder, pyrophoric; aluminium powder uncoated)
Korea - KECI	Yes
New Zealand - NZIoC	No (lead thiocyanate)
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	No (lead thiocyanate)
Thailand - TECI	No (barium chromate; lead thiocyanate; aluminium powder uncoated)
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory 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>	05/03/2017
<b>Initial Date</b>	Not Available

### SDS Version Summary

Version	Issue Date	Sections Updated
3.1.1.1	05/03/2017	Acute Health (skin), Appearance, Classification, Ingredients, Physical Properties, Name

### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

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

Continued...

**Combined Systems Model 9590 Grenade Sting Ball .314 Pellets**

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

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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