WHITE HANDFLARE

Wescom Signal and Rescue Australia Pty Ltd

Wescom Group: **65-6268**
Version No: **3.1.1.1**
Safety Data Sheet according to WHS and ADG requirements

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L.GHS.AUS.EN

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

Product Identifier

Product name	WHITE HANDFLARE
Synonyms	Comet white handflare, Art.-No. 9162500; Pains Wessex white handflare MK8, Item No: 9527510
Proper shipping name	SIGNAL DEVICES, HAND
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions. Sea distress signal. For collision and illumination. For use in day and night short range collision warning situations and for illuminating small areas. Fully extend handle, remove white end cap, pull toggle sharply away from body. Hold above head, outboard and downwind. Store on board in our Mini or Large Polybottles.

Details of the supplier of the safety data sheet

Registered company name	**Wescom Signal and Rescue Australia Pty Ltd**	**Wescom Signal and Rescue Germany GmbH**
Address	22 Naxos Way, Keysborough Victoria 3173 Australia	Vieländer Weg 147 Bremerhaven 27574 Germany
Telephone	+61 3 9650 1488	+49 471 3930
Fax	+ 613 9639 8811	+49 471 3932 10
Website	www.aurora-marine.com	www.wescom-group.com
Email	info@aurora-marine.com	info@wescom-group.com

Emergency telephone number

Association / Organisation	**Wescom Signal and Rescue Australia Pty Ltd**	
Emergency telephone numbers	+800 2436 2255	
Other emergency telephone numbers	+61 3 9573 3112	

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Explosive Division 1.4
Legend:	*1. Classified by Wescom Group; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*

Label elements

Hazard pictogram(s)	
SIGNAL WORD	**WARNING**

Hazard statement(s)

H204	Fire or projection hazard.

Precautionary statement(s) Prevention

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

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Precautionary statement(s) Response

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

Precautionary statement(s) Storage

P401	Store according to local regulations for explosives.

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
Not Available		device contains
Not Available		lighter composition, delay composition and ignition composition
Not Available		pyrotechnic materials of;
7757-79-1	10-30	potassium nitrate
10042-76-9	10-30	strontium nitrate
10022-31-8	1-5	barium nitrate
7429-90-5	10-30	aluminium
7778-74-7	10-30	potassium perchlorate
7704-34-9.	5-10	sulfur
9002-86-2	10-30	polyvinyl chloride
7439-95-4	30-60	magnesium

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: ▪ Wash out immediately with water. ▪ If irritation continues, seek medical attention. ▪ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▪ Immediately remove all contaminated clothing, including footwear. ▪ Flush skin and hair with running water (and soap if available). ▪ Seek medical attention in event of irritation.
Inhalation	▪ If fumes or combustion products are inhaled remove from contaminated area. ▪ Lay patient down. Keep warm and rested. ▪ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▪ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▪ Transport to hospital, or doctor, without delay.
Ingestion	▪ Not considered a normal route of entry. ▪ If swallowed do **NOT** induce vomiting. ▪ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▪ Observe the patient carefully. ▪ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▪ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▪ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

DANGER: Deliver media remotely.
- For minor fires: Flooding quantities only.
- For large fires: **Do not** attempt to extinguish.

|Apply by mechanical means only.

Special hazards arising from the substrate or mixture

Continued...

Fire Incompatibility	Avoid contact with other chemicals.

Advice for firefighters

Fire Fighting	**WARNING**: EXPLOSIVE MATERIALS / ARTICLES PRESENT! ▪ Evacuate all personnel and move upwind. ▪ Prevent re-entry. ▪ Alert Fire Brigade and tell them location and nature of hazard. ▪ May detonate and burning material may be propelled from fire. ▪ Wear full-body protective clothing with breathing apparatus. ▪ Prevent, by any means available, spillage and fire effluent from entering drains and water courses. ▪ Fight fire from safe distances and from protected locations. ▪ Use flooding quantities of water. ▪ **DO NOT** approach containers or packages suspected to be hot. ▪ Cool any exposed containers not involved in fire from a protected location. ▪ Equipment should be thoroughly decontaminated after use. Slight hazard when exposed to heat, flame and oxidisers.
Fire/Explosion Hazard	Division 1.4 Substances, mixtures and articles which present no significant hazard: substances, mixtures and articles which present only a small hazard in the event of ignition or initiation. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package. 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). Combustible. Will burn if ignited. Combustion products include: carbon monoxide (CO) carbon dioxide (CO_2) other pyrolysis products typical of burning organic material.
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	**WARNING!: EXPLOSIVE.** BLAST and/or PROJECTION and/or FIRE HAZARD ▪ Clean up all spills immediately. ▪ Avoid inhalation of the material and avoid contact with eyes and skin. ▪ Wear impervious gloves and safety glasses. ▪ Remove all ignition sources. ▪ Use spark-free tools when handling. ▪ Sweep into non-sparking containers or barrels and moisten with water. ▪ Place spilled material in clean, sealable, labelled container for disposal. ▪ Flush area with large amounts of water.
Major Spills	**WARNING!** EXPLOSIVE. ▪ Clear area of personnel and move upwind. ▪ Alert Fire Brigade and tell them location and nature of hazard. ▪ May be violently or explosively reactive. ▪ Wear full body protective clothing with breathing apparatus. ▪ Consider evacuation (or protect in place). ▪ In case of transport accident notify Police, Emergency Authority, Competent Explosives Authority or Manufacturer. ▪ No smoking, naked lights, heat or ignition sources. ▪ Increase ventilation. ▪ Use extreme caution to prevent physical shock. ▪ Use only spark-free shovels and explosion-proof equipment. ▪ Collect recoverable material and segregate from spilled material. ▪ Wash spill area with large quantities of water.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▪ Handle gently. Use good occupational work practice. ▪ Observe manufacturer's storage and handling recommendations contained within this SDS. ▪ Avoid all personal contact, including inhalation. ▪ Avoid smoking, naked lights, heat or ignition sources. ▪ Explosives must not be struck with metal implements. ▪ Avoid mechanical and thermal shock and friction. ▪ Use in a well ventilated area. ▪ Avoid contact with incompatible materials. ▪ When handling **DO NOT** eat, drink or smoke. ▪ Avoid physical damage to containers. ▪ Always wash hands with soap and water after handling. ▪ Work clothes should be laundered separately.

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Other information	▪ Store cases in a well ventilated magazine licensed for the appropriate Class, Division and Compatibility Group. ▪ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis. ▪ Observe manufacturer's storage and handling recommendations contained within this SDS. ▪ Store in a cool place in original containers. ▪ Keep containers securely sealed. ▪ No smoking, naked lights, heat or ignition sources. ▪ Store in an isolated area away from other materials. ▪ Keep storage area free of debris, waste and combustibles. ▪ Protect containers against physical damage. ▪ Check regularly for spills and leaks **NOTE**: If explosives need to be destroyed contact the Competent Authority. ▪ Store away from incompatible materials. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Suitable container	▪ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods. ▪ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division
Storage incompatibility	▪ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials. ▪ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus. ▪ Explosion hazard may follow contact with incompatible materials

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	barium nitrate	Barium, soluble compounds (as Ba)	0.5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium	Aluminium, pyro powders (as Al)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium	Aluminium (metal dust)	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium	Aluminium (welding fumes) (as Al)	5 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
potassium nitrate	Potassium nitrate	9 mg/m3	100 mg/m3	600 mg/m3
strontium nitrate	Strontium nitrate	5.7 mg/m3	62 mg/m3	370 mg/m3
barium nitrate	Barium nitrate	2.9 mg/m3	350 mg/m3	2,100 mg/m3
potassium perchlorate	Potassium perchlorate	6.3 mg/m3	69 mg/m3	420 mg/m3
sulfur	Sulfur	30 mg/m3	330 mg/m3	2,000 mg/m3
polyvinyl chloride	Polyvinyl chloride	3 mg/m3	33 mg/m3	200 mg/m3
magnesium	Magnesium	18 mg/m3	200 mg/m3	1,200 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium nitrate	Not Available	Not Available
strontium nitrate	Not Available	Not Available
barium nitrate	50 mg/m3	Not Available
aluminium	Not Available	Not Available
potassium perchlorate	Not Available	Not Available
sulfur	Not Available	Not Available
polyvinyl chloride	Not Available	Not Available
magnesium	500 mg/m3	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	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. 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. 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.
Personal protection	

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Eye and face protection	▪ Safety glasses with side shields ▪ Chemical goggles
Skin protection	See Hand protection below
Hands/feet protection	▪ Wear chemical protective gloves, e.g. PVC. ▪ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	▪ Fire resistant/ heat resistant gloves where practical, otherwise ▪ Heavy-duty chemically resistant gloves capable of providing short-term protection against spontaneous ignition. ▪ Safety footwear Hard hat |Ear Protection.

Respiratory protection

Respiratory protection not normally required due to the physical form of the product.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Steel tube with orange/yellow outer casing pressed with black/grey polytechnical ingredients, contains ignitor and a grip.

Physical state	Manufactured	**Relative density (Water = 1)**	Not Applicable
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	>160
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Applicable	**Viscosity (cSt)**	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	160	**Taste**	Not Available
Evaporation rate	Not Applicable	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Applicable
Vapour pressure (kPa)	Not Applicable	**Gas group**	Not Available
Solubility in water	Immiscible	**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	▪ Presence of shock and friction ▪ Presence of heat source and ignition source ▪ Product is considered stable under normal handling conditions. ▪ Stable under normal storage conditions. ▪ Hazardous polymerization will not occur. Avoid contact with other chemicals.
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. Inhalation of vapour is more likely at higher than normal temperatures. The vapour is discomforting
Ingestion	Not normally a hazard due to physical form of product.
Skin Contact	Not normally a hazard due to physical form of product. The vapour is discomforting
Eye	Not normally a hazard due to physical form of product. The vapour is discomforting
Chronic	▪ Generally not applicable.

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	TOXICITY	IRRITATION
WHITE HANDFLARE	Not Available	Not Available
potassium nitrate	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg[1]	Not Available
	Oral (rat) LD50: >2000 mg/kg[1]	
strontium nitrate	TOXICITY	IRRITATION
	Oral (rat) LD50: 1892 mg/kg[2]	Eye: adverse effect observed (irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]
barium nitrate	TOXICITY	IRRITATION
	Oral (rat) LD50: >50-300 mg/kg[1]	Eye (rabbit):100 mg/24h - moderate
		Skin (rabbit): 500 mg/24h - mild
aluminium	TOXICITY	IRRITATION
	Oral (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]
potassium perchlorate	TOXICITY	IRRITATION
	Not Available	Eye: adverse effect observed (irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]
sulfur	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg[1]	Eye (human): 8 ppm irritant
	Inhalation (rat) LC50: >5.43 mg/l4 h[1]	Eye: no adverse effect observed (not irritating)[1]
	Oral (rat) LD50: >2000 mg/kg[1]	Skin: adverse effect observed (irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]
polyvinyl chloride	TOXICITY	IRRITATION
	Not Available	Not Available
magnesium	TOXICITY	IRRITATION
	Oral (rat) LD50: >2000 mg/kg[1]	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*

BARIUM NITRATE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. 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.
POLYVINYL CHLORIDE	The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.
STRONTIUM NITRATE & POLYVINYL CHLORIDE	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.
ALUMINIUM & POTASSIUM PERCHLORATE & POLYVINYL CHLORIDE	No significant acute toxicological data identified in literature search.

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

Continued...

Legend: – *Data either not available or does not fill the criteria for classification*
– *Data available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

WHITE HANDFLARE

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

strontium nitrate

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>40.3mg/L	2
EC50	48	Crustacea	0.094-mg/L	2
EC50	72	Algae or other aquatic plants	>43.3mg/L	2
NOEC	2	Crustacea	>0.008-762mg/L	2

barium nitrate

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>3.5mg/L	2
EC50	72	Algae or other aquatic plants	>1.15mg/L	2
NOEC	72	Algae or other aquatic plants	>=1.15mg/L	2

aluminium

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
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

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
EC10	72	Algae or other aquatic plants	>100mg/L	2
NOEC	2016	Fish	11.48mg/L	2

sulfur

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	<14mg/L	4
EC50	48	Crustacea	>0.005mg/L	2
EC50	96	Algae or other aquatic plants	623.589mg/L	3
EC10	672	Fish	4.18mg/L	2
NOEC	504	Crustacea	>0.0025mg/L	2

polyvinyl chloride

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	2.315mg/L	3
EC50	96	Algae or other aquatic plants	25.141mg/L	3

magnesium

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
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

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*

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air

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potassium nitrate	LOW	LOW
sulfur	LOW	LOW
polyvinyl chloride	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
potassium nitrate	LOW (LogKOW = 0.209)
sulfur	LOW (LogKOW = 0.229)
polyvinyl chloride	LOW (LogKOW = 1.6233)

Mobility in soil

Ingredient	Mobility
potassium nitrate	LOW (KOC = 14.3)
sulfur	LOW (KOC = 14.3)
polyvinyl chloride	LOW (KOC = 23.74)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	▪ Explosives must not be thrown away, buried, discarded or placed with garbage. ▪ Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified. ▪ This material may be disposed of by burning or detonation but the operation may only be performed under the control of a person trained in the safe destruction of explosives. Refer to local Waste Disposal Authority and supplier for suitable disposal procedure.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	1YE

Land transport (ADG)

UN number	0191
UN proper shipping name	SIGNAL DEVICES, HAND
Transport hazard class(es)	Class: 1.4G Subrisk: Not Applicable
Packing group	Not Applicable
Environmental hazard	Not Applicable
Special precautions for user	Special provisions: Not Applicable Limited quantity: 0

Air transport (ICAO-IATA / DGR)

UN number	0191
UN proper shipping name	Signal devices, hand
Transport hazard class(es)	ICAO/IATA Class: 1.4G ICAO / IATA Subrisk: Not Applicable ERG Code: 1L
Packing group	Not Applicable
Environmental hazard	Not Applicable
Special precautions for user	Special provisions: Not Applicable Cargo Only Packing Instructions: 135 Cargo Only Maximum Qty / Pack: 75 kg Passenger and Cargo Packing Instructions: Forbidden

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

Sea transport (IMDG-Code / GGVSee)

UN number	0191
UN proper shipping name	SIGNAL DEVICES, HAND
Transport hazard class(es)	IMDG Class: 1.4G IMDG Subrisk: Not Applicable
Packing group	Not Applicable
Environmental hazard	Not Applicable
Special precautions for user	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 NITRATE(7757-79-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

STRONTIUM NITRATE(10042-76-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

BARIUM NITRATE(10022-31-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
Australia Exposure Standards
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) - Index
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Part 2, Section Seven - Appendix I
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

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

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
Australia Exposure Standards
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

POTASSIUM PERCHLORATE(7778-74-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
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) - Index
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

SULFUR(7704-34-9.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)
GESAMP/EHS Composite List - GESAMP Hazard Profiles
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

POLYVINYL CHLORIDE(9002-86-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

Continued...

MAGNESIUM(7439-95-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)
International Air Transport Association (IATA) Dangerous Goods Regulations
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	Yes
Canada - DSL	Yes
Canada - NDSL	No (strontium nitrate; sulfur; barium nitrate; magnesium; polyvinyl chloride; aluminium; potassium perchlorate; potassium nitrate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (polyvinyl chloride)
Japan - ENCS	No (sulfur; magnesium; aluminium)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Thailand - TECI	No (polyvinyl chloride; aluminium)
Legend:	*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

Revision Date	08/09/2016
Initial Date	Not Available

SDS Version Summary

Version	Issue Date	Sections Updated
3.1.1.1	08/09/2016	Disposal, Personal Protection (other), Personal Protection (eye), Synonyms

Other information

Ingredients with multiple cas numbers

Name	CAS No
strontium nitrate	10042-76-9, 13470-05-8
barium nitrate	10022-31-8, 34053-87-7
aluminium	7429-90-5, 91728-14-2

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Wescom Group 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
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

end of SDS