ORANGE SMOKE SIGNAL 15 MINUTE

WesCom Signal & Rescue Germany GmbH

Chemwatch Hazard Alert Code: **2**

Chemwatch: **65-6258**
Version No: **5.1**
Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Issue Date: **23/12/2022**
Print Date: **28/07/2023**
S.REACH.GB-NIR.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

1.1. Product Identifier

Product name	ORANGE SMOKE SIGNAL 15 MINUTE
Chemical Name	Not Applicable
Synonyms	Comet Smoke Signal: Art.-No. 9181700; Pains Wessex Buoysmoke MK9: Art.-No. 9538350
Proper shipping name	SIGNALS, SMOKE
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Sea distress signal. Compact Lifebuoy marker which produces dense orange smoke for 15 minutes. The signal is used to mark the position of a man overboard in the water during daylight. It can be automatically deployed by releasing the lifebuoy, or manually activated. Use according to manufacturer's directions.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	**WesCom Signal & Rescue Germany GmbH**
Address	Vielander Weg 147 Bremerhaven 27574 Germany
Telephone	+49 471 39 30
Fax	Not Available
Website	http://wescom-group.com/
Email	info@wescom-group.com

1.4. Emergency telephone number

Association / Organisation	**CONSULTANK Lutz Harder GmbH**
Emergency telephone numbers	+49 178 433 7434
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1]	H204 - Explosives Division 1.4
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*

2.2. Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Hazard statement(s)

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H204	Fire or projection hazard.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234	Keep only in original packaging.
P250	Do not subject to grinding/shock/sources of friction.
P280	Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.
P240	Ground and bond container and receiving equipment.

Precautionary statement(s) Response

P370+P372+P380+P373	In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
P370+P380+P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Precautionary statement(s) Storage

P401	Store in accordance with local/regional/national/international regulations.

Precautionary statement(s) Disposal

P503	Refer to manufacturer or supplier for information on disposal/recovery/recycling.

2.3. Other hazards

May produce discomfort of the eyes and skin*.

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	SCL / M-Factor	Nanoform Particle Characteristics
Not Available		device contains	Not Applicable	Not Applicable	Not Available
Not Available		polytechnic materials of;	Not Applicable	Not Applicable	Not Available
1. 3811-04-9 2.223-289-7 3.017-004-00-3 4.Not Available		potassium chlorate	Oxidizing Solids Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Hazardous to the Aquatic Environment Long-Term Hazard Category 2; H271, H302, H332, H411 [2]	Not Available	Not Available
1. 7757-79-1 2.231-818-8 3.Not Available 4.Not Available		potassium nitrate	Oxidizing Solids Category 3, Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 2; H272, H302, H319 [1]	Not Available	Not Available
1. 10022-31-8 2.233-020-5 3.056-002-00-7 4.Not Available		barium nitrate *	Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4; H302, H332 [2]	*	Not Available
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties*				

SECTION 4 First aid measures

4.1. 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.

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	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.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contact with other chemicals.

5.3. 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.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. 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.

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6.4. Reference to other sections

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

SECTION 7 Handling and storage

7.1. 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.
Fire and explosion protection	See section 5
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.

7.2. 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
Hazard categories in accordance with Regulation (EC) No 1272/2008	P1b: Explosives
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	P1b Lower- / Upper-tier requirements: 50 / 200

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
potassium chlorate	Dermal 3.5 mg/kg bw/day (Systemic, Chronic) Inhalation 5.76 mg/m³ (Systemic, Chronic) *Dermal 0.13 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.3 mg/m³ (Systemic, Chronic) ** *Oral 0.06 mg/kg bw/day (Systemic, Chronic) **	1.15 mg/L (Water (Fresh)) 1.15 mg/L (Water - Intermittent release) 3.83 mg/kg soil dw (Soil) 115 mg/L (STP)
potassium nitrate	Not Available	18 mg/L (STP)
barium nitrate	Dermal 8.14 mg/kg bw/day (Systemic, Chronic) Inhalation 2.73 mg/m³ (Systemic, Chronic) *Dermal 4.07 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.67 mg/m³ (Systemic, Chronic) ** *Oral 0.58 mg/kg bw/day (Systemic, Chronic) **	0.115 mg/L (Water (Fresh)) 11.5 µg/L (Water - Intermittent release) 600 mg/kg sediment dw (Sediment (Fresh Water)) 207.7 mg/kg soil dw (Soil) 62.2 mg/L (STP)

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
EU Consolidated List of Indicative Occupational	barium nitrate	Barium (soluble compounds as Ba)	0.5 mg/m3	Not Available	Not Available	Not Available

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Exposure Limit Values (IOELVs)						
UK Workplace Exposure Limits (WELs)	barium nitrate	Barium compounds, soluble (as Ba)	0.5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
potassium chlorate	5.6 mg/m3	62 mg/m3	370 mg/m3
potassium nitrate	9 mg/m3	100 mg/m3	600 mg/m3
barium nitrate	2.9 mg/m3	350 mg/m3	2,100 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium chlorate	Not Available	Not Available
potassium nitrate	Not Available	Not Available
barium nitrate	50 mg/m3	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
potassium chlorate	E	≤ 0.01 mg/m³
potassium nitrate	E	≤ 0.01 mg/m³
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

8.2. Exposure controls

8.2.1. 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.
8.2.2. Individual protection measures, such as personal protective equipment	
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	Ear 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

Respiratory protection

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

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Orange/yellow outer casing pressed with black/grey polytechnical ingredients.

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)**	170
pH (as supplied)	Not Applicable	**Decomposition temperature (°C)**	>160
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

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Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Applicable	**Explosive properties**	Not Available
Flammability	Not Available	**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
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. 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.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. 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. Considered an unlikely route of entry in commercial/industrial environments
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	Principal hazards are related to the explosive/ decomposition by products of the cartridge, if inadvertently discharged or launched without adequate control and safety measures in place. Normal exposure to the article by all route is considered to be practically non-harmful. ▸ Generally not applicable.

ORANGE SMOKE SIGNAL 15 MINUTE	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
potassium chlorate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg[1]	Not Available
	Inhalation(Rat) LC50: >5.1 mg/l4h[1]	
	Oral (Rat) LD50: 1870 mg/kg[2]	
potassium nitrate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >5000 mg/kg[1]	Not Available
	Inhalation(Rat) LC50: >0.527 mg/l4h[1]	
	Oral (Rabbit) LD50; 1901 mg/kg[2]	
barium nitrate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Eye (rabbit):100 mg/24h - moderate
	Oral (Rat) LD50: >50<300 mg/kg[1]	Skin (rabbit): 500 mg/24h - mild
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*	

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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 on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

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*

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

ORANGE SMOKE SIGNAL 15 MINUTE

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
EC50	72h	Algae or other aquatic plants	1.6-2.3mg/l	4
EC50	48h	Crustacea	>1000mg/l	2
LC50	96h	Fish	>1000mg/l	2
EC50(ECx)	Not Available	Algae or other aquatic plants	0.08mg/l	1

potassium nitrate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	490mg/l	2
NOEC(ECx)	144h	Fish	0.1mg/l	4
LC50	96h	Fish	>100mg/l	2

barium nitrate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>1.15mg/l	2
EC50	48h	Crustacea	>=16<=18mg/l	2
LC50	96h	Fish	>3.5mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	>=1.15mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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*

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
potassium chlorate	HIGH	HIGH
potassium nitrate	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
potassium chlorate	LOW (LogKOW = -4.6296)
potassium nitrate	LOW (LogKOW = 0.209)

12.4. Mobility in soil

Ingredient	Mobility
potassium chlorate	LOW (KOC = 35.04)
potassium nitrate	LOW (KOC = 14.3)

12.5. Results of PBT and vPvB assessment

Continued...

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✗	✗	✗
vPvB	✗	✗	✗

PBT Criteria fulfilled?	No
vPvB	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. 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.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO

Land transport (ADR-RID)

14.1. **UN number or ID number**	0507
14.2. **UN proper shipping name**	SIGNALS, SMOKE
14.3. **Transport hazard class(es)**	Class: 1.4S Subsidiary risk: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard identification (Kemler): Not Applicable Classification code: 1.4S Hazard Label: 1.4 Special provisions: Not Applicable Limited quantity: 0 Tunnel Restriction Code: 4 (E)

Air transport (ICAO-IATA / DGR)

14.1. **UN number**	0507
14.2. **UN proper shipping name**	Signals, smoke
14.3. **Transport hazard class(es)**	ICAO/IATA Class: 1.4S ICAO / IATA Subrisk: Not Applicable ERG Code: 3L
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable

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14.6. **Special precautions for user**	Special provisions	A802
	Cargo Only Packing Instructions	135
	Cargo Only Maximum Qty / Pack	100 kg
	Passenger and Cargo Packing Instructions	135
	Passenger and Cargo Maximum Qty / Pack	25 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

14.1. **UN number**	0507	
14.2. **UN proper shipping name**	SIGNALS, SMOKE	
14.3. **Transport hazard class(es)**	IMDG Class	1.4S
	IMDG Subrisk	Not Applicable
14.4. **Packing group**	Not Applicable	
14.5. **Environmental hazard**	Not Applicable	
14.6. **Special precautions for user**	EMS Number	F-B, S-X
	Special provisions	Not Applicable
	Limited Quantities	0

Inland waterways transport (ADN)

14.1. **UN number**	0507	
14.2. **UN proper shipping name**	SIGNALS, SMOKE	
14.3. **Transport hazard class(es)**	1.4S	Not Applicable
14.4. **Packing group**	Not Applicable	
14.5. **Environmental hazard**	Not Applicable	
14.6. **Special precautions for user**	Classification code	1.4S
	Special provisions	Not Applicable
	Limited quantity	0
	Equipment required	PP
	Fire cones number	0

14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
potassium chlorate	Not Available
potassium nitrate	Not Available
barium nitrate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
potassium chlorate	Not Available
potassium nitrate	Not Available
barium nitrate	Not Available

SECTION 15 Regulatory information

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

potassium chlorate is found on the following regulatory lists

Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

potassium nitrate is found on the following regulatory lists

Continued...

Europe EC Inventory	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

barium nitrate is found on the following regulatory lists

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI
Europe EC Inventory	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	P1b

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
potassium chlorate	3811-04-9	017-004-00-3	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Ox. Sol. 1; Acute Tox. 4; Acute Tox. 4; Aquatic Chronic 2	GHS03; GHS07; GHS09; Dgr	H271; H302; H332; H411
2	Ox. Sol. 1; Acute Tox. 4; Acute Tox. 4; Aquatic Chronic 2; STOT SE 2; Acute Tox. 4	GHS03; GHS07; GHS09; Dgr	H271; H302; H332; H411; H371

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
potassium nitrate	7757-79-1	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Ox. Sol. 2; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3	GHS03; GHS07; Dgr	H272; H315; H319; H335
2	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; Ox. Sol. 1; Aquatic Chronic 3; Acute Tox. 4; Repr. 2; STOT SE 2; STOT RE 2	GHS03; Dgr; GHS08	H315; H319; H335; H271; H412; H302; H361; H371; H373

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
barium nitrate	10022-31-8	056-002-00-7	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Ox. Sol. 2; Acute Tox. 4; Acute Tox. 4	GHS03; GHS07; Dgr	H272; H302; H332
2	Ox. Sol. 2; Acute Tox. 3; Eye Irrit. 2; Acute Tox. 4	GHS03; GHS06; Dgr	H272; H301; H319; H332; H312

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (potassium chlorate; potassium nitrate; barium nitrate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes

Continued...

National Inventory	Status
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	23/12/2022
Initial Date	12/08/2016

Full text Risk and Hazard codes

H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS Version Summary

Version	Date of Update	Sections Updated
4.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
5.1	23/12/2022	Classification review due to GHS Revision change.

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.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

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
ES: Exposure Standard
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
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas

Continued...

NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

end of SDS