

SAFETY DATA SHEET

1. Product and Company Identification

Sight & Sound Hand Flare Bear Deterrent #764

Orion Safety Products
3157 North 500 West
Peru, IN 46970

Use: Deter bear attack

Phone Number: US 1-800-851-5260

EMERGENCY CHEMTREC 1-800-424-9300

2. Hazards Identification

Emergency Overview



Danger

GHS Classifications	
Explosive	Division 1.4
Acute Toxicity	Category 4
Skin Corrosion / Irritation	Product- Category 1A Contents - Category 2
Serious Eye Damage / Irritation	Product-Category 1 Contents - Category 2B
Mutagenicity	Category 2
STOT - Repeated Exposure	Contents - Category 2

Hazard Statements:

Fire or projection hazard
Harmful if swallowed
Burning flare causes severe skin burns and eye damage
Contents cause skin and eye irritation
Suspected of causing genetic defects (potassium perchlorate)
May cause damage to thyroid through ingestion of contents after prolonged or repeated exposure

Precautionary Statements:

Keep out of reach of children.
Keep away from heat/sparks/open flames/hot surfaces. - no smoking.
Keep/Store away from combustible materials.
Use only non-sparking tools
Avoid breathing dust/smoke
Do not ignite inside a building or vehicle.
Do not dismantle.
Allow signal to burn to completion.
Avoid release to the environment.(contents)
Use personal protective equipment as required.
In case of fire: use water deluge. Do not use dry powder or foam extinguishers!

NFPA Rating

Flammability 2
Health 1
Reactivity 2

HMIS Rating

Flammability 2
Health 1
Physical Hazard 2

3. Composition / Information on Ingredients

Component	CAS #	EINCS #	%age
Magnesium	7439-95-4	231-104-6	25-75%
Barium Nitrate	10022-31-8	233-020-5	<50%
Potassium Perchlorate	7778-74-7	231-912-9	<50%
Polyvinyl Chloride	9002-86-2	200-831-0	<50%
Strontium Nitrate	10042-76-9	233-131-9	<50%

4. First Aid Measures

Inhalation	If fumes from ignition or contents are inhaled, remove to fresh air. If not breathing, give artificial respiration and get medical aid.
Skin	For burns, cool with water and bandage appropriately. If contents are contacted, wash with area with soap and water for 15 minutes. Remove contaminated clothing and wash before reuse. Get medical aid if burned or irritation occurs.
Eyes	If burned, cover eye and get medical help immediately. If contents get into eye, flush with plenty of water for at least 15 minutes, occasionally lifting the up and lower lids. Remove contact lenses if easily possible Get medical aid immediately.
Ingestion	Get medical aid immediately.

5. Firefighting Measures

Extinguishing Media

Water deluge

Unsuitable Extinguishing Media

Foam and dry chemical extinguishers and suffocation are ineffective.

Protective Equipment and Precautions for Firefighters

Use NIOSH/MSHA approved self-contained breathing apparatus when this material is involved in a fire. If a large number of signals are involved, explosion is possible.

Specific Hazards Arising from the Chemical

Flame and sparks and smoke are ejected out the open end of the flare when it functions. Use copious amounts of water to extinguish fire. Using small quantities of water on contents can cause auto / re-ignition as contents contain magnesium. Use of water on a magnesium fire will generate hydrogen gas that may cause an explosion

Flashpoint Not Applicable

Flammability Limits Not Applicable

Ignition Temperature >400°F

6. Accidental Release Measures

Personal Precautions

Do not breathe contents and avoid contact with skin and eyes. If significant amounts of spilled powder / contents are present, wear chemical safety goggles, Viton or Norfoil gloves, clothing designed to prevent or minimize skin contact and a NIOSH/MSHA approved dust respirator. Keep away from ignition sources.

Environmental Precautions

Prevent dispersion of contents on soil and in water. Prevent contents from spreading or entering into drains, ditches, groundwater or rivers by using appropriate barriers.

Methods for Containment and Clean-up

Be sure all ignition sources are removed before beginning the cleaning operation. Use caution when cleaning up spilled product contents. Use non-static forming broom and dust pan to clean up spilled contents. Undamaged signals may be picked up and put back into their original shipping containers or containers approved by local, state and federal authorities. Pick up spill for recovery or disposal and place in an approved container.

7. Handling and Storage

Handling

Keep out of reach of children. Do not dismantle. Do not allow contents to touch eyes, skin or clothing. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not ingest contents. Avoid inhalation of smoke. Signals should be allowed to burn to completion. Unburned and partially burned signals contain potassium perchlorate which should not be allowed to come into contact with surface and ground water. Perchlorate Material – special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Storage

Store in a cool, dry place away from all sources of ignition.

8. Exposure Controls / Personal Protection

Exposure Limits	OSHA PEL	ACGIH TLV
Magnesium	15 mg/m ³	10 mg/m ³
Barium Nitrate	0.5 mg/m ³	0.5 mg/m ³
Potassium Perchlorate	Nuisance dust 15 mg/m ³	Nuisance dust 15 mg/m ³
Polyvinyl Chloride	5mg/ml for the respirable portion and 15mg/ml for total dust.	5 and 10mg/ml, respectively
Strontium Nitrate	Not established	Not established

Engineering Controls

Use product outdoors only! When cleaning up powder, use local and/or general exhaust.

Eye / Face Protection

Safety glasses. For cleanup, wear NIOSH approved goggles to protect from dust

Skin Protection

Leather gloves. For cleanup, wear nitrile gloves and protective suit.

Respiratory Protection

None under normal conditions when using product. For cleanup, wear NIOSH approved respirator to protect from dust.

General Hygiene

Use product outdoors away from combustible products.

9. Physical and Chemical Properties

Appearance (color, physical form, shape): White plastic tube with a red cap on one end

pH: Not available

Melting Point: Not available

Solubility: Not available

Boiling Point: Not applicable

Freezing Point: Not applicable

Evaporation Rate: Not applicable

Vapor Pressure: Not applicable

Specific Gravity: Not applicable

Vapor Density: Not applicable

10. Stability and Reactivity

Chemical Stability Stable

Possibility of Hazardous Reactions Hazardous polymerization will not occur.

Conditions to Avoid

Excessive temperatures, moisture, water, and ignition sources.

Incompatible Materials

Avoid exposure to moisture, strong acids, reducing agents, metallic alloys, flammable and combustible materials, strong bases, acid chlorides, and strong fuels.

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Magnesium oxides, Strontium oxides, Potassium Oxides, Barium Oxides.

11. Toxicology Information

Toxicology	Oral LD50	skin LD50	LC50
Magnesium	Rat: >2000 mg/kg	Not available	Not available
Barium Nitrate	Rat - 390 mg/kg	Non irritant	Not available
Potassium Perchlorate	Rat: 2100 mg/kg	Not available	Not available
Polyvinyl Chloride	The product is biologically inert.	Not available	Not available
Strontium Nitrate	Rat: 2,500 mg/kg	Not available	> 12.5 mg/l

Acute Dose Effects

Contact with burning signal can cause severe burns. Contact with contents can cause skin, eye and mucous membrane irritation. Ingestion of barium nitrate may cause gastrointestinal irritation, nausea, vomiting muscle weakness and diarrhea.

Irritation Contents can cause skin and eye irritation. Inhalation of smoke will cause irritation to the lungs and mucus

Repeated Dose Effects

Chronic exposure to the strontium nitrate can cause bone calcification disorders. Barium nitrate observed effect on cardio-vascular system, hematology system, renal system, adrenal glands.

Corrosivity Contact with burning product will cause burns to eyes and skin.

membrane.

Carcinogenicity	None of the ingredients are suspect to be a carcinogen.	Reproductive Effects	No information found
Genetic Effects	No information found	Neurological Effects	No information found
Developmental Effects	Perchlorate exposure at certain levels can disrupt the function of the thyroid gland by interfering with the iodide uptake and thyroid hormone production. This interference may lead to developmental defects. Scientists consider pregnant women, children, infants, and individuals with thyroid disorders to be the populations most at risk of harm from being exposed to perchlorate.	Sensitization	No information found
Target Organ Effects	Kidney, Liver, Blood, Heart, Gastro-intestinal system, Bone marrow, Spleen, Nerves, and Thyroid.		

12. Ecological Information

<p>Aquatic Toxicity</p> <p><u>Magnesium:</u> Fishes <i>Pimephales promelas</i> LC50(98hr) 541 mg/L; Fishes, <i>Daphnia magna</i>, LC50(48hr) 140 mg/L</p> <p><u>Strontium Nitrate:</u> Acute toxicity - Fishes, <i>Carassius auratus</i>, LC100, 9,615 mg/l; Chronic toxicity - Fishes, <i>Gasterosteus aculeatus</i>, LC100, 2,912 mg/l</p> <p><u>Potassium Perchlorate:</u> Fish: (<i>Leuciscus Idus</i>) LC50 : 1850/2800 mg/l; crustaceans: (<i>Daphnia Magna</i>) LC 50 (24 hours) : 940 mg/l Algae: (<i>Scenedesmus Quadricauda</i>) limit of toxicity : 359 mg/l</p> <p><u>Barium Nitrate:</u> Acute Toxicity: Fishes, <i>Gasterosteus aculeatus</i>, LC50, 96 h, 1,000 mg/l; Fishes, various species, NOEC, = 24 h, 5 mg/l chronic toxicity: Fishes, <i>Gasterosteus aculeatus</i>, LC50, 7 Days, 500 mg/l</p>	<p>Persistence / Degradability</p> <p><u>Potassium Perchlorate:</u> Some bacteria, such as <i>Vibrio Dechloraticans</i> can reduce perchlorate to chloride</p> <p><u>Strontium Nitrate:</u> Can be eliminated from water by precipitation</p> <p><u>Barium Nitrate:</u> Abiotic degradation Water/soil cation precipitation in presence of sulphates or carbonates; Biodegradation - anaerobic (Nitrate) Degradation products: nitrogen oxides (NOx) / Ammonia / Nitrogen rapid biodegradation The methods for determining biodegradability are not applicable to inorganic substances.</p>	<p>Bioaccumulation / Accumulation</p> <p><u>Strontium Nitrate:</u> potential accumulation of the cation</p> <p><u>Barium Nitrate:</u> Bioconcentration : potential accumulation of the cation; Bioconcentration: Plants and microorganisms, (Nitrate) assimilation and consumption in proteic synthesis</p>	<p>Mobility in Environmental Media</p> <p><u>Strontium Nitrate:</u> Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption</p> <p><u>Barium Nitrate:</u> Air mobility as solid aerosols; Water/soil considerable solubility but mobility reduced by cation precipitation in the presence of sulphates or carbonates; Water/soil, (Nitrate) :considerable solubility and mobility; Soil/sediments, (Barium) adsorption on mineral and organic soil constituents</p>
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13. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations. Refer to California Code of Regulations, Title 33, Sections 67384.1-67384.10 for additional information on handling and disposal of potassium perchlorate containing materials.
Product: Unlisted RCRA Hazardous Waste (40 CFR 302): D001 (ignitable waste) and D005 (barium containing waste)
Ash: not hazardous

14. Transportation Information

Shipping Name	Hazard Class	ID Number	Packing Group	EX Number	Reportable Quantities	Net Explosive Quantity
Signal Devices, Hand	1.4G	UN0191	II	EX2002070038	none	0.28kg (0.62lb)/unit

15. Regulatory Information

US Regulations	TSCA	CERCLA	CWA	CAA	SARA 313	SARA 302	Acute	Chronic	Fire	Reactivity	Pressure
Magnesium	8(b)	no	no	no	no	no	no	yes	yes	no	no
Barium Nitrate	yes	no	no	no	yes	no	yes	yes	yes	no	no
Potassium Perchlorate	yes	no	no	no	no	no	yes	yes	no	yes	no
Polyvinyl Chloride	yes	no	no	no	no	no	yes	no	no	no	no
Strontium Nitrate	yes	no	no	no	no	no	yes	no	yes	yes	no

US States	Prop 65	NJ	PA
Magnesium	no	1136	yes
Barium Nitrate	no	0186	yes
Potassium Perchlorate	no	1577	no
Polyvinyl Chloride	no	3622	no
Strontium Nitrate	no	1743	no

Canada	WHMIS	DSL
	B4 Flammable Solid 1 Transportation of Dangerous Goods: class 4.1 B6 Reactive Flammable Material 2 emits a flammable gas on contact with water vapor: hydrogen	yes
	C Oxidizing Material D1A Very Toxic Material Causing Immediate and Serious Toxic Effects D2B Toxic Material Causing Other Toxic Effects	yes
	C - Oxidizing material	yes
	Uncontrolled product according to WHMIS classification criteria	yes
	C Oxidizing Material D2B Toxic Material Causing Other Toxic Effects	yes

Europe	wgk
	nwg
	1
	1
	not listed
	2

16. Other Information

Revision Information: January 2015

Risk and Safety Phrases:

R10 Flammable
R38, Irritating to skin
R20 Harmful by inhalation.
R21 Harmful in contact with skin.
R22 Harmful if swallowed.
R34 Causes burns
R36 Irritating to eyes.
R37 Irritating to respiratory system.
S17 Keep away from combustible material
S16 Keep away from sources of ignition
S2 Keep out of the reach of children.

S8 Keep container dry.
S13 Keep away from food, drink and animal foodstuffs.
S24 Avoid contact with skin.
S25 Avoid contact with eyes.
S29 Do not empty into drains.
S41, In case of fire and / or explosion do not breathe fumes
S43 In case of fire use water
S51 Use only in well ventilated areas

Key / Legend:

HMS: hazardous material identification system
NFPA: national fire protection association
CAS: Chemical Abstracts Service number
EINECS: European inventory of existing chemical substances
OSHA PEL: occupational safety and health administration permissible exposure limit
NIOSH TLV: national institute of occupational safety and health Threshold Limit Value
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer

TSCA: toxic substance control act - US
CERCLA: comprehensive environmental response, compensation and liability act - US
CWA: clean water act - US
CAA: clean air act - US
SARA: superfund amendments and reauthorization act - US
PROP 65: California's Proposition 65 list
WHMIS: workplace hazardous materials information system - Canada
DSL: Domestic Substances List - Canada
WGK: water hazard classes - Germany

Legal Statement:

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