

SAFETY DATA SHEET

Effective Date: November 2026

ITEM: Pocket Rocket A/L Kit

PART # 270 **UPC** 077403102709

CONTENTS

16.5 mm Aerial (Pocket Rocket) SDS
Marine Handheld Red Flare (HHRF) SDS

SHIPPING INFORMATION

UN0353, Articles, explosive, n.o.s., 1.4G (ERG 114)
EX2004110274

SAFETY DATA SHEET

1. Product and Company Identification

Pocket Rocket Aerial Signal (Compact 16.5 mm Signal)

Identified Use: *Emergency signal* ***Use Advised Against:*** *Do not use indoors or inside of a vehicle.*

Manufacturer's Information:
Orion Safety Products
3157 N 500 W
Peru, Indiana 46970
US 1-800-851-5260
Int'l (11) 1-765-472-4375

EMERGENCY RESPONSE *CHEMTREC*
1-800-424-9300
1-703-527-3887

2. Hazards Identification

GHS Classifications

Explosive	*Category 1.4*
Skin Irritation	*Category 2*
Eye Irritation	*Category 1*
Carcinogenicity	*Category 2*
STOT-Single Exposure	*Category 3*

GHS Label Elements

Hazard Statements

H204	*Fire or projection hazard*
H315	*Causes skin irritation*
H318	*Causes serious eye damage*
H351	*Suspected of causing cancer*
H335	*May cause respiratory irritation*

Pictograms



Signal Word ***Danger***

Precautionary Statements

P102	*Keep out of reach of children.*	*P301/315*	*IF SWALLOWED: Get immediate medical advice /attention.*
P103	*Read carefully and follow all instructions.*	*P302/352*	*IF ON SKIN: Wash with plenty of soap and water.*
P210	*Keep away from heat/sparks/open flames/hot surfaces. No smoking*	*P304/340/342*	*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.*
P232	*Protect from moisture*		
P261	*Avoid breathing dust/fumes.*	*P305/351/338*	*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P264	*Wash hands thoroughly after handling.*		
P270	*Do not eat, drink or smoke when using this product.*	*P333/313*	*If skin irritation or rash occurs, get medical advice/attention.*
P271	*Use only outdoors.*	*P370*	*In case of fire: use water deluge*
P280	*Wear protective eye protection.*		

Hazards Not Otherwise Classified (HNOC): *none*

3. Composition / Information on Ingredients

Component	*CAS #*	*EINCS #*	*Percentage*
High Density Polyethylene	*9002-88-4*	*Polymer*	*<60%*
Talc	*14807-96-6*	*238-877-9*	*<20%*
Strontium Nitrate	*10042-76-9*	*233-131-9*	*<20%*
Magnesium	*7439-95-4*	*231-104-6*	*<20%*
Strontium Peroxide	*1314-18-7*	*215-224-6*	*<10%*
Aluminum	*7429-90-5*	*231-072-3*	*<5%*
Polyvinyl Chloride	*9002-86-2*	*None*	*<5%*
Dextrin	*9004-53-9*	*232-675-4*	*<1%*
Potassium Nitrate	*7757-79-1*	*231-818-8*	*<4%*
Charcoal	*16291-96-6*	*240-383-3*	*<1%*
Sulfur	*7704-34-9*	*231-722-6*	*<2%*
Iron	*1309-37-1*	*231-096-4*	*<5%*
Copper	*7440-50-8*	*231-159-6*	*<3%*

Note*: Due to Confidential Business Information, "Trade Secrets", the exact percentage of each ingredient has not been disclosed. CBI information will be shared with appropriate authorities if circumstances warrant.*

4. First Aid Measures

Description of first aid measures

Inhalation	*If contents are inhaled, remove to fresh air. Watch for signs of allergic reaction. If other symptoms develop, get medical aid immediately.*
Skin	*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 irritation occurs.*
Eyes	*If contents get into eyes, flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses if easily possible. Get medical aid immediately.*
Ingestion	*Get medical aid immediately.*

Most important symptoms and effects both acute and delayed — *See section 2 labeling and section 11*

Indication of any immediate medical attention and special treatment needed — *No data available*

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 — *Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Prevent further propagation of fire by spraying unburnt nearby product with water. Combat fire from a sheltered position.*

Specific Hazards Arising from the Chemical — *Only use outdoors. Use copious amounts of water to extinguish fire. Using small quantity of water on contents / broken shells 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. Irritating fumes. Flaming projectiles may be ejected during a fire. Trace amounts of lead vapor may be produced (from ignition primer) in a fire situation.*

Further Information — *No data available*

6. Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures

Do not breathe smoke or contents. Avoid contact with skin and eyes. Wear flame retardant clothing with long sleeves, dust mask, rubber or nitrile gloves, safety goggles, safety shoes when cleaning up contents. Avoid friction on the released product. 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

Use caution when cleaning up spilled contents. Remove heat, flames, sparks and other sources of ignition. Use non-sparking tools and equipment. Prevent buildup of electrostatic charges by grounding. Clean spills in a manner that does not disperse dust into the air. Do not absorb in sawdust or other combustible absorbents. Pick up spill for recovery of disposal and place in an approved container. Wash away remainder with plenty of water. Collect wash water for approved disposal. Be very careful – magnesium powder may spontaneously ignite in presence of moisture. Magnesium powder reacts with water, producing flammable hydrogen gas.

7. Handling and Storage

Precautions for Safe Handling

Use product only in designated launcher – do not attempt to use in 12 gauge shotgun. Point launcher away from body, other people, animals or combustible products when firing. Wear appropriate eye protection during use. Turn face from launcher when firing. Follow instructions on package. Avoid contact with clothing and other combustible materials. Use outdoors only! Do not ignite or launch product inside a vehicle or building. Avoid ingestion of smoke and inhalation of contents. Wash thoroughly after handling. Avoid contact with heat sparks, and flame. Do no disassemble signals.

Conditions for Safe Storage, Including Any Incompatibilities

Store in a dry place away from direct sunlight, heat and incompatible materials. See section 10. Store away from food and beverages. Store away from flammable materials, sources of heat, flame and sparks. Store at ambient temperature.

8. Exposure Controls / Personal Protection

Control Parameters

Exposure Limits	***OSHA PEL***	***ACGIH TLV***
High Density Polyethylene	*5mg/ml for respirable portion and 15mg/ml' for total dust*	*3mg/ml for respirable portion and 10mg/ml' for total dust*
Talc	*2.0 mg/m³*	*2.0 mg/m³*
Strontium Nitrate	*Not Established*	*Not Established*
Magnesium	*Not Established*	*Not Established*
Strontium Peroxide	*Nuisance dust 15mg/m³*	*Nuisance dust 15mg/m³*
Aluminum	*TWA: 15 mg/m³*	*TWA: 1 mg/m³*
Polyvinyl Chloride	*5mg/ml for respirable portion and 15mg/ml' for total dust*	*5 and 10 mg/ml, respectively*
Dextrin	*15 mg/m³*	*15 mg/m³*
Charcoal	*3.5 mg/m³*	*3 mg/m³*
Sulfur	*20 ppm*	*Not Established*
Potassium Nitrate	*15 mg/m³*	*10 mg/m³*
Iron	*TWA: 10 mg/m³*	*Not Established*
Copper	*0.1 mg/m³(fume) 1 mg/m³(dusts and mists)*	*0.2 mg/m³(fume), 1 mg/m³ (dusts and mists)*

Exposure Controls

Engineering Controls	Use product outdoors only! When cleaning up contents, use local and/or general exhaust.
Personal Protective Equipment	
Eye / Face Protection	Turn face from launcher when firing. Wear safety glasses or goggles during use and when cleaning up spilled contents.
Skin Protection	None under normal conditions when using product unless prolonged handling is anticipated. When cleaning up spilled contents, wear impervious protective clothing, including gloves, boots, and a lab coat, apron or coveralls as appropriate. Wash hands and face before eating, drinking, or using tobacco products.
Respiratory Protection	None under normal conditions when using product. A particulate respirator (NIOSH t N195 or better filters) may be worn during the cleanup of spilled contents.
General Hygiene	Use product outdoors away from combustible products. For cleanup of spilled contents, emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous materials. Maintain good housekeeping and safety practices. Do not let contents accumulate in storage or work areas. Clean spills up promptly.

9. Physical and Chemical Properties

Appearance (color, physical form, shape): Grey powder

pH:	No data available	**Melting Point:**	No data available	**Solubility:**	No data available
Boiling Point / Range:	Not applicable	**Freezing Point:**	Not applicable	**Evaporation Rate:**	Not applicable
Vapor Pressure:	Not applicable	**Specific Gravity:**	Not applicable	**Vapor Density:**	Not applicable
Odor:	No data available	**Odor Threshold:**	No data available	**Flash Point:**	No data available
Flammability:	No data available	**Flammability Limits:**	No data available	**Relative Density:**	No data available
Partition Coefficient:	No data available	**Viscosity:**	No data available		
Auto Ignition Temperature:	No data available			**Decomposition Temperature:**	No data available

10. Stability and Reactivity

Chemical Stability: Stable **Reactivity:** No information available **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

Conditions to Avoid	Incompatible Materials	Hazardous Decomposition Products
Excessive temperatures, moisture, acids, and ignition sources	Reducing Agents, Organic Materials, Finely Powdered Metals, Acids, Water, Halogens	Strontium Oxides, Carbon Monoxide and Dioxide, Nitrous Oxides, Magnesium Hydroxides and Oxides.

11. Toxicology Information

Ingredient acute toxicity information

Toxicology	Oral LD50	Skin LD50	LC50
High Density Polyethylene	4000mg/kg	not available	12,000 mg/m³/30min
Talc	not available	not available	not available
Strontium Nitrate	Rat 2750 mg/kg	not available	not available
Magnesium	Rat 230 mg/kg	not available	not available
Strontium Peroxide	Rat 980 mg/kg	not available	not available
Aluminum	Rat: >2000 mg/kg	Rat – 4h - >888 mg/l	not available
Polyvinyl Chloride	Rat: >5000 mg/kg	not available	not available
Dextrin	None Known	Not Sensitizing	None Known
Potassium Nitrate	Rat 3015 mg/kg	not available	not available
Charcoal	Rat 10000 mg/kg	Rabbit >3000 mg/kg	not available
Sulfur	Rat 175 mg/kg	Rabbit >2000 mg/kg	Rat 9.23 mg/l/4hr
Iron	Rat: 30000 mg/kg	not available	not available
Copper	Rat: 5800 mg/kg	not available	not available

Product toxicological information

Acute Toxicity	Not classified – Acute Toxicity Estimate yields oral LD_{50} over 5000 mg/kg bw 17% unknown
Skin Irritation / Corrosion	Category 2 – over 0.1% of ingredients classified as a Category 2 skin irritant
Serious Eye Damage / Irritation	Category 1 – over .01% of ingredients classified as a Category 1 eye irritant
Respiratory / Skin Sensitization	No information found
Germ Cell Mutagen	No information found
Carcinogen	Category 2 – over 0.1% of ingredients classified as a Category 2 carcinogens
Reproductive Toxicity	No information found
STOT – single exposure	Category 3 – respiratory over 20% of ingredients classified as a Category 3 respiratory STOT hazard
STOT – repeated exposure	No information found
Aspiration Hazard	No information found
Likely routes of exposure	Skin, ingestion, inhalation
Symptoms related to the physical, chemical and toxicological characteristics	Irritation to the eyes will cause watering and redness. Reddening, scaling, and itching are characteristics of skin inflammation. Ingestion of contents may cause gastrointestinal irritation with nausea, vomiting and diarrhea. Inhalation will cause irritation to the lungs and mucus membrane.
Delayed and immediate effects and chronic effects from short and long term exposure	Absorption of strontium peroxide into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Prolonged or repeated skin contact with contents may cause dermatitis.
Interactive effects	No information found

12. Ecological Information

Ingredient toxicity / persistence / degradability / bioaccumulation / mobility in soil and water

Aquatic Toxicity	*Strontium Nitrate: Acute toxicity - Fishes, Carassius auratus, LC100, 9,615 mg/l; Chronic toxicity - Fishes, Gasterosteus aculeatus, LC100, 2.912 mg/l*
	Magnesium: LC50 1355 mg/l fish
Persistence / Degradability	*No information found*
Bioaccumulation / Accumulation	*No information found*
Mobility in Environmental Media	*Strontium Nitrate: Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption*
Other adverse effects	*No information found*

13. Disposal Considerations (for spills and leakage)

Dispose of contaminated product and materials used in cleaning up spills or leaks in the manner approved for pyrotechnic material. Consult appropriate federal, state, and local regulatory agencies to ascertain proper disposal procedures. Open burning is preferred method of disposal for pyrotechnic materials.

14. Transportation Information

	ID Number	***Proper Shipping Name***	***Hazard Class***	***Packing Group***	***EX Number***	***Reportable Quantities***
Domestic & International	*UN0403*	*Flares, aerial*	*1.4G*	*n/a*	*EX2004110275*	*none*

Marine pollutant: *no* ***Special precautions for user:*** *no information available*

15. Regulatory Information

US Regulations	***TSCA***	***CERCLA***	***CWA***	***CAA***	***SARA 313***	***SARA 302***	***Acute***	***Chronic***	***Fire***	***Reactivity***	***Pressure***
HD Polyethylene	*yes*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*
Talc	*yes*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*
Strontium Nitrate	*yes*	*no*	*no*	*no*	*yes*	*no*	*yes*	*no*	*no*	*yes*	*no*
Magnesium	*yes*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*yes*	*yes*	*no*
Strontium Peroxide	*yes*	*no*	*no*	*no*	*no*	*no*	*yes*	*no*	*yes*	*yes*	*no*
Aluminum	*yes*	*no*	*no*	*no*	*yes*	*no*	*no*	*no*	*no*	*no*	*no*
Polyvinyl Chloride	*yes*	*no*	*no*	*no*	*no*	*no*	*yes*	*no*	*no*	*no*	*no*
Dextrin	*yes*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*no*
Potassium Nitrate	*Yes*	*no*	*no*	*no*	*yes*	*no*	*no*	*no*	*yes*	*no*	*no*
Charcoal	*yes*	*no*	*no*	*no*	*no*	*no*	*yes*	*yes*	*yes*	*no*	*no*
Sulfur	*yes*	*no*	*no*	*no*	*no*	*no*	*yes*	*yes*	*yes*	*no*	*no*
Iron	*yes*	*no*	*no*	*no*	*no*	*no*	*no*	*no*	*yes*	*no*	*no*
Copper	*yes*	*yes*	*yes*	*no*	*yes*	*no*	*yes*	*no*	*yes*	*no*	*no*

US States	***Prop 65***	***NJ***	***PA***	***Canada***	***WHMIS***	***DSL***	***Europe***	***wgk***
HD Polyethylene	*no*	*yes*	*yes*		*Not Controlled*	*yes*		*not listed*
Talc	*yes*	*yes*	*yes*	*yes*	*Class D2A – Very toxic material*	*yes*		*not listed*
Strontium Nitrate	*no*	*yes*	*no*		*C Oxidizing materials* *D1B Toxic materials* *D2B Toxic materials*	*yes*		*2*
Magnesium	*no*	*yes*	*yes*		*B6 Reactive flammable material;* *B4 Flammable solid;* *F Dangerously reactive material*	*yes*		*nwg*
Strontium Peroxide	*no*	*yes*	*no*		*C oxidizing material*	*yes*		*not listed*
Aluminum	*no*	*yes*	*yes*		*Not controlled*	*yes*		*nwg*
Polyvinyl Chloride	*no*	*yes*	*no*		*Not controlled*	*yes*		*not listed*
Dextrin	*no*	*no*	*no*		*Not controlled*			
Potassium Nitrate	*no*	*no*	*no*	*yes*	*No information found*	*yes*		*nwg*
Charcoal	*yes*	*yes*	*yes*		*No information found*	*yes*		*nwg*
Sulfur		*yes*	*yes*	*yes*	*No information found*	*yes*		*nwg*
Iron	*no*	*yes*	*yes*		*B4 flammable solid*	*yes*		*nwg*
Copper	*no*	*yes*	*yes*		*B4 Flammable solid* *D2B Toxic materials*	*yes*		*nwg*

16. Other Information

Revision Information: *Feb 2023*
New Composition

NFPA Rating		***HMIS Rating***	
Flammability	*2*	*Flammability*	*1*
Health	*2*	*Health*	*3*
Reactivity	*1*	*Physical Hazard*	*1*

Key / Legend

HMIS: 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
CWA: clean water act - US
TSCA: toxic substance control act - US
CERCLA: comprehensive environmental response compensation and liability 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

This information is accurate to the best knowledge of Orion Safety Products. Orion Safety Products makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability or fitness for a particular purpose, with respect to the information set forth herein or the product to which the information refers. Accordingly, Orion Safety Products will not be responsible for damages resulting from use of or reliance upon this information. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation

SAFETY DATA SHEET

1. Product and Company Identification

Marine Handheld Red Flare (HHRF)

Identified Use: *Emergency signal* ***Use Advised Against:*** *Do not use indoors or inside of a vehicle.*

Manufacturer's Information:
Orion Safety Products
3157 N 500 W
Peru, Indiana 46970
US 1-800-851-5260
Int'l (11) 1-765-472-4375

EMERGENCY RESPONSE *CHEMTREC*
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1-703-527-3887

2. Hazards Identification

GHS Classifications

Explosive	*Category 1.4*
Skin Irritation	*Category 2*
Eye Irritation	*Category 2A*
STOT-Single Exposure	*Category 3*

GHS Label Elements

Hazard Statements

H204	*Fire or projection hazard*
H315	*Causes skin irritation*
H319	*Causes serious eye irritation*
H335	*May cause respiratory irritation*

Pictograms



Signal Word ***Warning***

Precautionary Statements

P102	*Keep out of reach of children.*
P103	*Read carefully and follow all instructions*
P210	*Keep away from heat/sparks/open flames/hot surfaces. No smoking*
P232	*Protect from moisture*
P261	*Avoid breathing dust/fumes.*
P264	*Wash hands thoroughly after handling.*
P270	*Do not eat, drink or smoke when using this product.*
P271	*Use only outdoors.*
P280	*Wear protective eye protection.*
P370	*In case of fire; use water deluge.*
P301/315	*IF SWALLOWED: Get immediate medical advice /attention.*
P302/352	*IF ON SKIN: Wash with plenty of soap and water.*
P304/340/342	*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.*
P305/338/351	*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P332/313	*If skin irritation or rash occurs, get medical advice/attention.*
P501	*Dispose of contents / container in accordance with local and national Regulations.*

Hazards Not Otherwise Classified (HNOC): *produces hot flame*

3. Composition / Information on Ingredients

Component	*CAS #*	*EINCS #*	*Percentage*
Strontium Nitrate	*10042-76-9*	*233-131-6*	*<60%*
Sulfur	*7704-34-9*	*231-722-6*	*<25%*
Potassium Nitrate	*7757-79-1*	*231-818-8*	*<25%*
Polyvinyl Chloride	*9002-86-2*	*200-831-0*	*<5%*
Paraffinic Oil	*64742-54-7*	*232-384-2*	*<5%*
Strontium Peroxide	*1314-18-7*	*215-224-6*	*<2%*
Potassium Chlorate	*3811-04-9*	*223-289-7*	*<2%*

Note*: Due to Confidential Business Information, "Trade Secrets", the exact percentage of each ingredient has not been disclosed. CBI information will be shared with appropriate authorities if circumstances warrant.*

4. First Aid Measures

Description of first aid measures

Inhalation *If contents are inhaled, remove to fresh air. Watch for signs of allergic reaction. If other symptoms develop, get medical aid immediately.*

Skin *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 irritation occurs.*

Eyes *If contents get into eyes, flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses if easily possible. Get medical aid immediately.*

Ingestion *Get medical aid immediately.*

Most important symptoms and effects both acute and delayed *See section 2 labeling and section 11*

Indication of any immediate medical attention and special treatment needed *No data available*

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	Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Prevent further propagation of fire by spraying unburnt nearby product with water. Combat fire from a sheltered position.		
Specific Hazards Arising from the Chemical	Only use outdoors. Flame and sparks are ejected out the open end of the flare when it functions. Do not point flare at any part of the body or flammable material.		
Further Information	No data available		

6. Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures

Do not breathe smoke or contents. Avoid contact with skin and eyes. Wear flame retardant clothing with long sleeves, dust mask, rubber or nitrile gloves, safety goggles, safety shoes when cleaning up contents. Avoid friction on the released product. 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

Use caution when cleaning up spilled contents. Remove heat, flames, sparks and other sources of ignition. Use non-sparking tools and equipment. Prevent buildup of electrostatic charges by grounding. Clean spills in a manner that does not disperse dust into the air. When cleaning up contents, use local and/or general exhaust. Clean up avoiding dust generation and place in a well identified container. Do not absorb in sawdust or other combustible absorbents. Wash away remainder with plenty of water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for Safe Handling

Hold and point signal away from body when igniting. Hold signal downwind when burning. Avoid breathing smoke. Avoid contact with clothing and other combustible materials. Use outdoors only! Do not ignite or burn product inside a vehicle, boat cabin or building. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with skin and eyes. Avoid contact with heat, sparks, and flame. Signals should be allowed to burn to completion.

Conditions for Safe Storage, Including Any Incompatibilities

Store in a dry place away from direct sunlight, heat and incompatible materials. Store away from food and beverages. Store away from flammable materials, sources of heat, flame and sparks. Store at ambient temperature. Do not store partially burned signals in a vehicle, boat, closed container, warehouse, or any other building.

8. Exposure Controls / Personal Protection

Control Parameters

Exposure Limits	OSHA PEL	ACGIH TLV
Strontium Nitrate	Not established	Not established
Sulfur	Not established	Not established
Potassium Nitrate	Nuisance dust, 15 mg/m³	Nuisance dust, 15 mg/m³
Polyvinyl Chloride	No known hazardous components above regulatory thresholds in this product	No known hazardous components above regulatory thresholds in this product
Paraffinic Oil	5 mg/m³	TWA 5 mg/m³
Strontium Peroxide	15 mg/m³	15 mg/m³
Potassium Chlorate	Not Established	Not Established

Exposure Controls

Engineering Controls	Use product outdoors only! When cleaning up contents, use local and/or general exhaust.
Eye / Face Protection	Safety glasses or goggles
Skin Protection	None under normal conditions when using product unless prolonged handling is anticipated. Impervious protective clothing, including gloves, boots, and a lab coat, apron or coveralls, as appropriate, when cleaning up spilled product. Wash hands and face before eating, drinking or using tobacco products
Respiratory Protection	None under normal conditions when using product. A particulate respirator (NIOSH t N95 or better filters) may be worn during the cleanup of spilled contents.
General Hygiene	Use product outdoors away from combustible products. For cleanup of spilled contents, emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous materials. Maintain good housekeeping and safety practices. Do not let contents accumulate in storage or work areas. Clean spills up promptly.

9. Physical and Chemical Properties

***Appearance** (color, physical form, shape):* Grey powder

pH:	No data available	***Melting Point:***	No data available	***Solubility:***	No data available
Boiling Point / Range:	Not applicable	***Freezing Point:***	Not applicable	***Evaporation Rate:***	Not applicable
Vapor Pressure:	Not applicable	***Specific Gravity:***	Not applicable	***Vapor Density:***	Not applicable
Odor:	No data available	***Odor Threshold:***	No data available	***Flash Point:***	No data available
Flammability:	No data available	***Flammability Limits:***	No data available	***Relative Density:***	No data available
Partition Coefficient:	No data available	***Viscosity:***	No data available		
Auto Ignition Temperature:	No data available			***Decomposition Temperature:***	No data available

10. Stability and Reactivity

Chemical Stability: Stable ***Reactivity:*** No information available ***Possibility of Hazardous Reactions:*** Hazardous polymerization will not occur.

Conditions to Avoid	***Incompatible Materials***	***Hazardous Decomposition Products***
Combustible materials, heat, flames, sparks and other sources of ignition. Moisture.	Strong acids, strong fuels, ammonia salts and strong bases.	Carbon monoxide, carbon dioxide, sulfur oxides and nitrogen oxides.

11. Toxicology Information

Ingredient acute toxicity information

Toxicology	***Oral LD50***	***Skin LD50***	***LC50***
Strontium Nitrate	Rat: 1892 mg/kg	Not stated	Not stated
Sulfur	Rat: 5050 mg/kg	Rat:>2020 mg/kg	Rat:>5.49 mg/L air concentration
Potassium Nitrate	Rat: 3750 mg/kg	Not stated	Not stated
Polyvinyl Chloride	Rat: >5000 mg/kg	No known hazardous components above regulatory thresholds	No known hazardous components above regulatory thresholds
Paraffinic Oil	Rat: >2000 mg/kg	Rat: >2000 mg/kg	No information found
Strontium Peroxide	Not Available	Not Available	Not Available
Potassium Chlorate	Rat 1870 mg/kg	2000 mg/kg (rabbit)	No information found

Product toxicological information

Acute Toxicity	Not classified – Acute Toxicity Estimate yields oral LD_{50} over 5000 mg/kg bw
Skin Irritation / Corrosion	Category 2 – over 10% of ingredients classified as a Category 2 skin irritant
Serious Eye Damage / Irritation	Category 2A – over 10% of ingredients classified as a Category 2A eye irritant
Respiratory / Skin Sensitization	Not classified (Based on available data, the classification criteria are not met)
Germ Cell Mutagen	Not classified (Based on available data, the classification criteria are not met)
Carcinogen	Not classified (Based on available data, the classification criteria are not met)
Reproductive Toxicity	Not classified (Based on available data, the classification criteria are not met)
STOT – single exposure	Not classified (Based on available data, the classification criteria are not met)
STOT – repeated exposure	Category 3 - respiratory-over 10% of ingredients classified as a Category 3 respiratory STOT hazard
Aspiration Hazard	Not classified (Based on available data, the classification criteria are not met)
Likely routes of exposure	Skin, ingestion, inhalation
Symptoms related to the physical, chemical and toxicological characteristics	Contents irritating to eyes due to chemical and physical properties of the mixture. Ingestion of contents may cause gastrointestinal irritation with nausea, vomiting and diarrhea. Individuals with known allergies to sulfide drugs may also have allergic reactions to elemental sulfur.
Delayed and immediate effects and chronic effects from short and long term exposure	Inhalation of contents or smoke from burning flare will cause irritation to the lungs and mucus membrane. Prolonged or repeated skin contact with contents may cause dermatitis.
Interactive effects	No information found

12. Ecological Information

Ingredient toxicity / persistence / degradability / bioaccumulation / mobility in soil and water

Aquatic Toxicity	Potassium Chlorate: fish: LC50 oncorhynchus mykiss (rainbow trout) 1750 mg/l – 96 hr, EC50 daphnia magna (water flea) 1093 mg/l 24 hr Strontium Nitrate: Acute toxicity - Fishes, Carassius auratus, LC100, 9,615 mg/l; Chronic toxicity - Fishes, Gasterosteus aculeatus, LC100, 2.912 mg/l Sulfur: Toxicity to fish LC50 – Oncorhynchus mykiss (rainbow trout) - > 180 mg/l – 96 h Toxicity to dapnia and other aquatic invertebrates: EC50 – Daphnia magna (Water flea) - > 5,000 mg/l – 48 h
Persistence / Degradability	No information found
Bioaccumulation / Accumulation	No information found
Mobility in Environmental Media	Strontium Nitrate: Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption
Other adverse effects	No information found

13. Disposal Considerations (for spills and leakage)

Dispose of contaminated product and materials used in cleaning up spills or leaks in the manner approved for pyrotechnic material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Open burning is the preferred method of disposal for pyrotechnic materials. Allow flares to burn to completion.

14. Transportation Information

	ID Number	Proper Shipping Name	Hazard Class	Packing Group	EX Number	Reportable Quantities
Domestic & International	UN0373	Signal devices, hand	1.4S	n/a	2019092055	none

Marine pollutant: no

Special precautions for user: no information available

15. Regulatory Information

US Regulations	TSCA	CERCLA	CWA	CAA	SARA 313	SARA 302	Acute	Chronic	Fire	Reactivity	Pressure
Strontium Nitrate	yes	no	no	no	yes	no	yes	no	no	yes	no
Sulfur	yes	no	no	no	no	no	yes	no	yes	no	no
Potassium Nitrate	yes	no	no	no	yes	no	no	no	no	yes	no
Polyvinyl Chloride	yes	no	no	no	no	no	yes	no	no	no	no
Paraffinic Oil	yes	no	no	no	no	no	no	no	no	no	no
Potassium Chlorate	yes	no	no	no	no	no	yes	no	no	yes	no
Strontium Peroxide	yes	no	no	no	no	no	yes	no	yes	yes	no

US States	Prop 65	NJ	PA	Canada	WHMIS	DLS	Europe	Wgk
Strontium Nitrate	no	1743	no		C Oxidizing materials D1B Toxic materials D2B Toxic materials	yes		2
Sulfur	no	1757	yes		B4 Flammable solid D2B Toxic materials	yes		1 / nwg
Potassium Nitrate	no	1574	yes		C Oxidizing materials	yes		1
Polyvinyl Chloride	no	3622	no		No results	yes		not listed
Paraffinic Oil	no	1437	no		No results	yes		not listed
Potassium Chlorate	no	1560	yes		C Oxidizing materials D1B Toxic materials	yes		2
Strontium Peroxide	no	yes	no		C Oxidizing materials	yes		not listed

16. Other Information

Revision Information: March 2019

NFPA Rating		HMIS Rating	
Flammability	2	Flammability	1
Health	2	Health	3
Reactivity	1	Physical Hazard	1

Key / Legend

HMIS: 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
CWA: clean water act - US
TSCA: toxic substance control act - US
CERCLA: comprehensive environmental response compensation and liability 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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