SAFETY DATA SHEET

EFFECTIVE DATE: 8/25/2017

ITEM: Locator Plus 4 Signal Kit
Canadian Locate Kit / 4
Canadian Locate-6

PART #	UPC
534	077403093342
537	077403105373
594	077403913213

CONTENTS:

Marine Hand Held Red Flare (HHRF) SDS

SHIPPING INFORMATION

UN0373, Signal Devices, Hand, 1.4S (ERG 114)
EX1986040106

SAFETY DATA SHEET

1. Product and Company Identification

Marine Hand Held Red Flare (HHRF)

Identified Use: Emergency signal

Use Advised Against: Do not use indoors or inside of a vehicle

Manufacturers Information

Orion Safety Products
3157 North 500 West
Peru, IN 46970
US 1-800-851-5260
Intl (11) 1-765-472-4375

EMERGENCY

CHEMTREC
1-800-424-9300

2. Hazards Identification

GHS Classifications

Explosive	Category 1.4	H204
Skin Irritation	Category 2	H315
Eye Irritation	Category 2A	H319
STOT - Repeated Exposure	Category 3	H335

Perchlorate Material – special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate.

GHS Label Elements

Pictograms

Signal Word Warning

Hazard Statements

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

Precautionary Statements

P103	Keep out of reach of children
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P232	Protect from moisture
P261	Avoid breathing dust/fume
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
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.
P333/313	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 #	%age
Strontium Nitrate	10042-76-9	233-131-9	>50%
Sulfur	7704-34-9	231-722-6	<25%
Potassium Perchlorate	7778-74-7	231-912-9	<20%
Polyethylene	9002-88-4	none	<5%
Potassium Chlorate	3811-04-9	231-100-4	<5%

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 eye, 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	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 and 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. 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.
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 Perchlorate	Nuisance dust 15 mg/m³	Nuisance dust 15 mg/m³
Polyethylene	15 mg/m3 TWA	10 mg/m3 TWA
Potassium Chlorate	Not established	Not established

Exposure controls

Engineering Controls	Use product outdoors only! When cleaning up contents, use local and/or general exhaust.
Personal Protective Equipment	
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.

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:	Not 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
Combustible materials, heat, flames, sparks and other sources of ignition. Moisture.

Incompatible Materials
Strong acids, strong fuels, ammonia salts, and strong bases.

Hazardous Decomposition Products
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 Perchlorate	Rat: 2100 mg/kg	not stated	not stated
Polyethylene	Rat: 4000 mg/kg	not stated	not stated
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 daphnia 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 preferred method of disposal for pyrotechnic materials. 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.

14. Transportation Information

	ID Number	shipping name	hazard class	packing group	EX Number	Reportable Quantities
Domestic & International	UN0373	Signal Devices, Hand	1.4S	n/a	EX1986040106	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 Perchlorate	yes	no	no	no	no	no	yes	no	no	yes	no
Polyethylene	yes	no	no	no	no	no	no	no	no	no	no
Potassium Chlorate	yes	no	no	no	no	no	yes	no	no	yes	no

US States	Prop 65	NJ	PA	Canada	WHMIS	DSL	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 Perchlorate	no	1577	yes		C Oxidizing materials D1B Toxic materials	yes		1
Polyethylene	no	no	no		Not controlled	yes		not listed
Potassium Chlorate	no	1560	yes		C Oxidizing materials D1B Toxic materials	yes		2

16. Other Information

Revision Information: May 2015

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
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