

## SAFETY DATA SHEET

### 1. Product and Company Identification

#### Skyblazer II and Skyblazer III XLT and XLT Twin Signals SAR Red Aerial Signals

**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
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%

**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

<b>Inhalation</b>	If contents are inhaled, remove to fresh air. Watch for signs of allergic reaction. If other symptoms develop, get medical aid immediately.
<b>Skin</b>	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.
<b>Eyes</b>	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.
<b>Ingestion</b>	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

<b>Extinguishing Media</b>	Water deluge	<b>Unsuitable Extinguishing Media</b>	Foam and dry chemical extinguishers and suffocation are ineffective.
<b>Protective Equipment and Precautions for Firefighters</b>	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.		
<b>Specific Hazards Arising from the Chemical</b>	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.		
<b>Further Information</b>	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

Point signal away from body, other people, animals or combustible products when firing. Wear appropriate eye protection during use. Turn face away from signal 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
Strontium Nitrate	Not Established	Not Established
Magnesium	Not Established	Not Established
Strontium Peroxide	Nuisance dust 15mg/m <sup>3</sup>	Nuisance dust 15mg/m <sup>3</sup>
Aluminum	TWA: 15mg/m <sup>3</sup>	TWA: 1mg/m <sup>3</sup>
Polyvinyl Chloride	5mg/ml for respirable portion and 15mg/ml <sup>1</sup> for total dust	5 and 10 mg/ml, respectively
Dextrin	15 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>
Charcoal	3.5 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>
Sulfur	20 ppm	Not Established
Potassium Nitrate	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

**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 away from signal 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**

<b>Appearance</b> (color, physical form, shape):	Grey powder		
<b>pH:</b>	No data available	<b>Melting Point:</b>	No data available
<b>Boiling Point / Range:</b>	Not applicable	<b>Freezing Point:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable	<b>Specific Gravity:</b>	Not applicable
<b>Odor:</b>	No data available	<b>Odor Threshold:</b>	No data available
<b>Flammability:</b>	No data available	<b>Flammability Limits:</b>	No data available
<b>Partition Coefficient:</b>	No data available	<b>Viscosity:</b>	No data available
<b>Auto Ignition Temperature:</b>	No data available	<b>Decomposition Temperature:</b>	No data available
		<b>Solubility:</b>	No data available
		<b>Evaporation Rate:</b>	Not applicable
		<b>Vapor Density:</b>	Not applicable
		<b>Flash Point:</b>	No data available
		<b>Relative Density:</b>	No data available

**10. Stability and Reactivity**

<b>Chemical Stability:</b> Stable	<b>Reactivity:</b> No information available	<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to Avoid</b> Excessive temperatures, moisture, acids, and ignition sources	<b>Incompatible Materials</b> Reducing Agents, Organic Materials, Finely Powdered Metals, Acids, Water, Halogens	<b>Hazardous Decomposition Products</b> 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
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

**Product toxicological information**

<b>Acute Toxicity</b>	Not classified – <i>Acute Toxicity Estimate yields oral LD<sub>50</sub> over 5000 mg/kgbw 17% unknown</i>
<b>Skin Irritation / Corrosion</b>	Category 2 – <i>over 0.1% of ingredients classified as a Category 2 skin irritant</i>
<b>Serious Eye Damage / Irritation</b>	Category 1 – <i>over .01% of ingredients classified as a Category 1 eye irritant</i>
<b>Respiratory / Skin Sensitization</b>	No information found
<b>Germ Cell Mutagen</b>	No information found
<b>Carcinogen</b>	Category 2 – <i>over 0.1% of ingredients classified as a Category 2 carcinogens</i>
<b>Reproductive Toxicity</b>	No information found
<b>STOT – single exposure</b>	Category 3 – <i>respiratory over 20% of ingredients classified as a Category 3 respiratory STOT hazard</i>
<b>STOT – repeated exposure</b>	No information found
<b>Aspiration Hazard</b>	No information found
<b>Likely routes of exposure</b>	Skin, ingestion, inhalation
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	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.
<b>Delayed and immediate effects and chronic effects from short and long term exposure</b>	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.
<b>Interactive effects</b>	No information found

## 12. Ecological Information

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

<b>Aquatic Toxicity</b>	<u>Strontium Nitrate: Acute toxicity - Fishes, Carassius auratus, LC100, 9.615 mg/l; Chronic toxicity - Fishes, Gasterosteus aculeatus, LC100, 2.912 mg/l</u> <u>Magnesium: LC50 1355 mg/l fish</u>
<b>Persistence / Degradability</b>	No information found
<b>Bioaccumulation / Accumulation</b>	No information found
<b>Mobility in Environmental Media</b>	<u>Strontium Nitrate: Water.: considerable solubility and mobility; Soil/sediments non-significant adsorption</u>
<b>Other adverse effects</b>	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	Single Star EX2002110107 Twin Star EX2002110148	none
<b>Marine pollutant:</b> no			<b>Special precautions for user:</b> 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
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

US States	Prop 65	NJ	PA	Canada	WHMIS	DSL	Europe	wgk
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

## 16. Other Information

**Revision Information:** July 2019

<b>NFPA Rating</b>		<b>HMIS Rating</b>	
Flammability	2	Flammability	1
Health	2	Health	3
Reactivity	1	Physical Hazard	1

### Key / Legend

HMIS: hazardous material identification system	TSCA: toxic substance control act - US
NFPA: national fire protection association	CERCLA: comprehensive environmental response compensation and liability act – US
CAS: Chemical Abstracts Service number	CAA: clean air act - US
EINECS: European inventory of existing chemical substances	SARA: superfund amendments and reauthorization act – US
OSHA PEL: occupational safety and health administration permissible exposure limit	PROP 65: California's Proposition 65 list
NIOSH TLV: national institute of occupational safety and health Threshold Limit Value	WHMIS: workplace hazardous materials information system - Canada
NTP: National Toxicology Program	DSL: Domestic Substances List - Canada
IARC: International Agency for Research on Cancer	WGK: water hazard classes - Germany
CWA: clean water act - US	

### Legal Statement

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