

## SAFETY DATA SHEET

### 1. Product and Company Identification

**Marine Hand Held Orange Smoke Signal (HHOS)**

**Synonyms:** SAR Orange Smoke Signal

**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
Skin Sensitization	Category 1	H317
STOT - Repeated Exposure	Category 1	H372

**Perchlorate Material – special handling may apply,  
 See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).**

**GHS Label Elements**

Pictograms



Hazard Statements

H204	Fire or projection hazard
H315	Causes skin irritation
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H372	Causes damage to lungs through prolonged or repeated exposure

Signal Word **Danger**

**Precautionary Statements**

P103	Keep out of reach of children	P301/315	IF SWALLOWED: Get immediate medical advice /attention.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.	P302/352	IF ON SKIN: Wash with plenty of soap and water.
P232	Protect from moisture	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.
P261	Avoid breathing dust/fume	P305/338/351	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.	P333/313	If skin irritation or rash occurs, get medical advice/attention.
P270	Do not eat, drink or smoke when using this product.	P501	Dispose of contents / container in accordance with local and national regulations
P271	Use only outdoors or in a well-ventilated area.		
P280	Wear protective eye protection		
P370	In case of fire: use water deluge		

**Hazards Not Otherwise Classified (HNOC):** produces hot flame and copious amount of smoke

### 3. Composition / Information on Ingredients

Component	CAS #	EINCS #	%age
Solvent Yellow Dye	842- 07- 9	212-668-2	<40%
Lactose	63-42-3	none	<40%
Potassium Chlorate	3811-04-9	231-100-4	<25%
Solvent Orange 7 Dye	3118-97-6	221-490-4	<20%
Potassium Perchlorate	7778-74-7	231-912-9	<0.5%

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**

<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 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.
<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. Contents / dust may form explosive mixtures. Flame and copious amounts of smoke are ejected out the open end of the signal when it functions. Do not point signal at any part of the body or flammable material.		
<b>Further information</b>	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. Contains strong dyes which will color all exposed areas..

#### 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. Mop up exposed area with bleach to destroy color. 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. Contains strong dyes which will color all exposed areas. Signals should be allowed to burn to completion. Unburned and partially burned signals should not be allowed to come into contact with surface and ground water. 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

#### 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
Solvent Yellow Dye	No information found	None
Lactose	Nuisance particulate, 15 mg/m <sup>3</sup> of total dust	Nuisance particulate 10 mg/m <sup>3</sup> of total dust
Potassium Chlorate	No Airborne Exposure Limits established	No Airborne Exposure Limits established
Solvent Orange 7 Dye	No information found	No information found
Shellac	1000 ppm	1000 ppm
Potassium Perchlorate	Nuisance dust 15 mg/m <sup>3</sup> .	Nuisance dust 15 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** Safety glasses or goggles

**Skin Protection** None under normal conditions when using product unless prolonged handling is anticipated. Contains strong dyes which will color all exposed areas. When cleaning up spilled contents, wear full length 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 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):	Orange powder		
pH:	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>	>167°F	<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>	Not 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, water, acids, and ignition sources	<b>Incompatible Materials</b>	Strong oxidizers, strong acids, oxidizing or reducing agents. Liquid acids of any kind. Hydrogen Fluoride, Ammonia Salts.	<b>Hazardous Decomposition Products</b>	Carbon monoxide, carbon dioxide, nitrogen oxides,

### 11. Toxicology Information

#### Ingredient acute toxicity information

Toxicology	Oral LD50	skin LD50	LC50
Solvent Yellow Dye	Rat: 5000 mg/kg	No information found	No information found
Lactose	Rat: 10000 mg/kg	No information found	No information found
Potassium Chlorate	Rat: 1870 mg/kg	2000 mg/kg ( Rabbit )	No information found
Solvent Orange 7 Dye	Rat: 5000 mg/kg	No information found	No information found
Shellac	Rat: 5000 mg/kg	No information found	No information found
Potassium Perchlorate	Rat: 2100 mg/kg	No information found	No information found

#### Product toxicological information

<b>Acute Toxicity</b>	Not classified – <i>Acute Toxicity Estimate yields oral LD<sub>50</sub> over 5000 mg/kg bw</i>
<b>Skin Irritation / Corrosion</b>	Category 2 – <i>over 10% of ingredients classified as a Category 2 skin irritant</i>
<b>Serious Eye Damage / Irritation</b>	Category 2A – <i>over 10% of ingredients classified as a Category 2A eye irritant</i>
<b>Respiratory / Skin Sensitization</b>	Category 1 Skin – <i>over 0.1% of ingredients are classified as a Category 1 skin sensitizer</i>
<b>Germ Cell Mutagen</b>	Not classified (Based on available data, the classification criteria are not met)
<b>Carcinogen</b>	Not classified (Based on available data, the classification criteria are not met)
<b>Reproductive Toxicity</b>	Not classified (Based on available data, the classification criteria are not met)
<b>STOT – single exposure</b>	Not classified (Based on available data, the classification criteria are not met)
<b>STOT – repeated exposure</b>	Category 1 – <i>lungs over 1% of ingredients classified as a Category 1 STOT hazard</i>
<b>Aspiration Hazard</b>	Not classified (Based on available data, the classification criteria are not met)
<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>	Both the solvent yellow and orange dyes may cause dermatitis in sensitive individuals.
<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>Potassium Chlorate:</u> fish: LC50 <i>oncorhynchus mykiss</i> (rainbow trout) 1750 mg/l – 96 hr, EC50 <i>daphnia magna</i> (water flea) 1093 mg/l 24 hr
<b>Persistence / Degradability</b>	No information found
<b>Bioaccumulation / Accumulation</b>	No information found
<b>Mobility in Environmental Media</b>	No information found
<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. 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	EX1997080126	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
Solvent Yellow Dye	yes	no	no	no	yes	no	yes	yes	no	no	no
Lactose	yes	no	no	no	no	no	no	no	no	no	no
Potassium Chlorate	yes	no	no	no	no	no	yes	no	no	yes	no
Solvent Orange 7 Dye	yes	no	no	no	yes	no	no	yes	no	no	no
Shellac	yes	no	no	no	no	no	no	no	no	no	no
Potassium Perchlorate	yes	no	no	no	no	no	yes	no	no	yes	no

  

US States	Prop 65	NJ	PA	Canada	WHMIS	DSL	Europe	wgk
Solvent Yellow Dye	yes	0509	yes		D2A Very toxic materials D2B Toxic materials	yes		not listed
Lactose	no	no	no		Non controlled	yes		not listed
Potassium Chlorate	no	1560	yes		C Oxidizing materials D1B Toxic materials	yes		2
Solvent Orange 7 Dye	no	0506	yes		D2B Toxic materials	yes		3
Shellac	no	0844	yes		B2 - D2B Toxic materials	yes		0
Potassium Perchlorate	no	1577	yes		C Oxidizing materials D1B Toxic materials	yes		1

### 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**

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