

SAFETY DATA SHEET

1. Product and Company Identification

**Skyblazer II, XLT and XLT, Twin
SAR Red Aerial Signal**

Orion Safety Products
3157 North 500 West
Peru, IN 46970

Use: Emergency signal

Phone Number: US 1-800-851-5260
Intl (11) 1-765-472-4375
EMERGENCY CHEMTREC 1-800-424-9300

2. Hazards Identification

Emergency Overview



| GHS Classifications | |
|---------------------------------|---|
| Explosive | Division 1.4 |
| Acute Toxicity | Category 5 |
| Skin Corrosion / Irritation | Product- Category 1A Contents - Category 2 |
| Serious Eye Damage / Irritation | Product-Category 1 Contents - Category 2B |

Hazard Statements:

Fire or projection hazard
Causes severe skin burns and eye damage (product when burning)
Causes skin and eye irritation (contents)
Harmful if inhaled or swallowed

NFPA Rating

Flammability 2
Health 2
Reactivity 1

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.
Keep dry.
Keep cool. Do not expose long term to temperatures exceeding 167°F
Avoid breathing dust/smoke
Use only outdoors. Do not ignite inside a building, vehicle or boat cabin.
Wear eye protection.
Do not dismantle.
In case of fire: use water deluge. Do not use dry powder or foam extinguishers!

HMIS Rating

Flammability 1
Health 3
Physical Hazard 1

3. Composition / Information on Ingredients

| Component | CAS # | EINCS # | %age |
|--------------------|------------|-----------|------|
| Strontium Nitrate | 10042-76-9 | 233-131-9 | <50% |
| Magnesium | 7439-95-4 | 231-104-6 | <50% |
| Strontium Peroxide | 1314-18-7 | 215-224-6 | <50% |
| Polyvinyl chloride | 9002-86-2 | none | <20% |
| Black Powder | mixture | mixture | <20% |
| Dextrin | 9004-53-9 | 232-675-4 | <20% |
| Primer | n/a | n/a | n/a |

4. First Aid Measures

| | |
|-------------------|---|
| Inhalation | If smoke 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 smoke or 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 | 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 quantities of water on contents / broken product 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. | | |

Flashpoint Not Applicable Flammability Limits Not Applicable Ignition Temperature >180F

6. Accidental Release Measures

| Personal Precautions | Environmental Precautions |
|--|---|
| 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. | 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 product 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 or 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

Handling Point product away from body, other people, animals or combustible products when firing. Wear appropriate eye protection when using. Follow instructions on package! Do not disassemble signal. Avoid contact with clothing and other combustible materials. Use outdoors only. Do not remove bottom cap unless you are outdoors and preparing to activate signal. Do not ignite or launch product inside a vehicle, boat cabin, or building. Avoid ingestion and inhalation of smoke and contents. Wash thoroughly after handling. Avoid contact with heat sparks, and flame.

Storage Store in a cool area out of direct sunlight. Do not allow long-term exposure to temperatures in excess of 180°F. Avoid long-term immersion in water, exposure to moisture, open flames or extremely high temperature. Store away from flammable materials, sources of heat, flame and sparks. Do not store partially burned signals in a vehicle, boat, closed container, warehouse, or any other building.

8. Exposure Controls / Personal Protection

| Exposure Limits | OSHA PEL | ACGIH TLV |
|--------------------|--|--------------------------------------|
| Strontium Nitrate | Not Established | Not Established |
| Magnesium | unknown | unknown |
| Strontium Peroxide | 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 |
| Black Powder | Not established | Not established |
| Dextrin | 15 mg/m ³ total dust | 10 mg/m ³ |

Engineering Controls Use product outdoors only! When cleaning up contents, use local and/or general exhaust.
Eye / Face Protection Turn face from product 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. 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 plastic tube.

| | | |
|---------------------------------------|---|---|
| pH: Not available | Melting Point: >500°F | Solubility: Slight |
| 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, acids,. Exposure of the signal to temperatures in excess of 180°F may cause weakening of the signal body. Avoid open flames, extremely high temperatures, wet conditions. and ignition sources | Incompatible Materials Strong oxidizers, strong acids, oxidizing or reducing agents. Liquid acids of any kind. Hydrogen Fluoride, Avoid exposure to organic solvents which might weaken the signal body. | Hazardous Decomposition Products Carbon monoxide, Nitrous oxides, Carbon dioxide. Magnesium hydroxides and oxides |
|---|--|---|

11. Toxicology Information

| Toxicology | Oral LD50 | skin LD50 | LC50 |
|--------------------|-----------------|-----------------|-----------------|
| Strontium Nitrate | Rat 2750 mg/kg | Not Established | Not Established |
| Magnesium | Not Established | Not Established | Not Established |
| Strontium Peroxide | Not Established | Not Established | Not Established |
| Polyvinyl chloride | Not Established | Not Established | Not Established |
| Black Powder | Not Established | Not Established | Not Established |
| Dextrin | Not Established | Not Established | Not Established |



Acute Dose Effects

Burning signal can cause severe burns if in contact with body - product burns at an extremely high temperature. Particles from firing may be harmful if inhaled. Contact with contents may cause moderate skin and eye irritation. Inhalation of smoke or contents will cause irritation to the lungs and mucus membrane. Exposure to smoke during use may aggravate asthma if inhaled.

| | |
|------------------------------|---|
| Irritation | Irritating to the skin and eyes on contact. Inhalation will cause irritation to the lungs and mucus membrane. |
| Carcinogenicity | No information found |
| Genetic Effects | No information found |
| Developmental Effects | No information found |
| Target Organ Effects | Eye, skin, and lungs |

Repeated Dose Effects

No known chronic effects. Repeated or prolonged exposure to this compound is not known to aggravate medical conditions.

| | |
|-----------------------------|--|
| Corrosivity | May cause eye or skin burns if in contact with burning signal. |
| Reproductive Effects | No information found |
| Neurological Effects | No information found |
| Sensitization | No information found |

12. Ecological Information

| Aquatic Toxicity | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environmental Media |
|---|-----------------------------|--------------------------------|---------------------------------|
| Strontium Nitrate: <i>Acute toxicity - Fishes, Carassius auratus, LC100, 9,615 mg/l; Chronic toxicity - Fishes, Gasterosteus aculeatus, LC100, 2,912 mg/l</i> | No information found | No information found | 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

| | shipping name | hazard class | ID Number | packing group | EX Number | Reportable Quantities |
|-------------------------------|----------------|--------------|-----------|---------------|---|-----------------------|
| United States & International | Flares, aerial | 1.4G | UN0403 | n/a | XLT & SAR - EX2002110107 TWIN - EX2002110148 | none |

15. Regulatory Information

| US Regulations | TSCA | CERCLA | CWA | CAA | SARA 313 | SARA 302 | Acute | Chronic | Fire | Reactivity | Pressure |
|--------------------|---------|---------|---------|---------|----------|----------|------------|------------|------------|------------|------------|
| Strontium Nitrate | yes | no | no | no | no | no | no | no | no | no | no |
| Magnesium | yes | no | no | no | no | no | no | no | no | no | no |
| Strontium Peroxide | yes | no | no | no | no | no | not stated | not stated | not stated | not stated | not stated |
| Polyvinyl chloride | yes | no | no | no | no | no | no | no | no | no | no |
| Black Powder | mixture | mixture | mixture | mixture | mixture | mixture | mixture | mixture | mixture | mixture | mixture |
| Dextrin | yes | no | no | no | no | no | no | no | no | no | no |

| US States | Prop 65 | NJ | PA | Canada | WHMIS | DSL | Europe | wgk |
|--------------------|---------|---------|---------|--------|------------|---------|--------|------------|
| Strontium Nitrate | no | 1743 | no | | No results | yes | | 2 |
| Magnesium | no | 1136 | yes | | No results | yes | | nwg |
| Strontium Peroxide | no | 1745 | no | | No results | yes | | not listed |
| Polyvinyl chloride | no | 3622 | no | | No results | yes | | not listed |
| Black Powder | mixture | mixture | mixture | | mixture | mixture | | mixture |
| Dextrin | no | no | no | | No results | yes | | 1 |

16. Other Information

Revision Information: October 2016

Risk and Safety Phrases:

R10 Flammable
R38 Irritating to skin (contents)
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
S39 Wear eye / face protection.

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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