



## **SAFETY DATA SHEET**

*EFFECTIVE DATE:* 06/06/17

**ITEM: Visibility Kit**

**PART #**

8909

**UPC**

039147089098

**CONTENTS:**

Battery SDS

Lightstick SDS

Red Emergency Flare SDS



Fluorescent material

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## 1. Identification

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### (a) Product identifier

Product name: Fluorescent material

### (b) Other means of identification

Product description: GLOW STICK, GLOW BRACELET, GLOW NECKLACE, GLOW CUP, GLOW WAND WITH ASST COLORS  
RED/GREEN/BLUE/YELLOW/PINK/ORANGE/PURPLE/WHITE/A  
QUA

### (c) Recommended use of the chemical and restrictions on use

Recommended use: Used in decoration.

Restriction on use: No information available.

### (d) Details of the supplier of the product

Company name Xiamen Long Afterglow Co.,Ltd  
Address: NO.1043, Tong Ji Road, Tong An Area, Xiamen,Fujian Province,  
China

E-mail: Tommy@glo-noveltv.com

Telephone: +86-592-3675699

Fax: +86-592-3675400

### (e) Emergency phone number

+86-592-3675699

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## 2. Hazard(s) identification

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### (a) Classification of the chemical

This product is not classified as hazardous.

### (b) Label elements

This product is not classified as hazardous.

Pictogram(s): No pictogram is used.

Signal word: No signal word is used.

Hazard statements: No hazard statements.

Precautionary statements: No precautionary statements.

### (c) Description of any hazards not otherwise classified

No information available.

### (d) Ingredient with unknown acute toxicity

No information available.

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This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.

**Safety Data Sheet**  
**According to HCS-2012 APPENDIX D TO §1910.1200**



**Fluorescent material**

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### 3. Composition/information on ingredients

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#### (a) Mixtures information

Chemical name	CAS No.	Concentration
Dimethyl Phthalate	131-11-3	58.5%
Butyl Benzoate	136-60-7	28.5%
CPPO	75203-51-9	4.7%
Hydrogen Peroxide	7722-84-1	2.2%
H2O	7732-18-5	6.0%
Fluorescer	10075-85-1	0.1%

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### 4. First-aid measures

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#### (a) Description of first aid measures

- Inhalation: Move to fresh air in case of accidental inhalation of vapours or decomposition products. If you feel unwell, seek medical advice.
- Skin contact: Wash off with soap and plenty of water. If skin irritation persists, call a physician.
- Eye contact: Rinse with plenty of water immediately, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
- Ingestion: Rinse mouth. Do not induce vomiting. Call a physician immediately.

#### (b) Most important symptoms/effects, acute and delayed

No information available.

#### (c) Immediate medical attention and special treatment

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

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### 5. Fire-fighting measures

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#### (a) Extinguishing media

Suitable extinguishing media: Use carbon dioxide, dry extinguishing media, water spray, water.

Unsuitable extinguishing media: No information available.

#### (b) Special hazards arising from the chemical

Combustion produces toxic or irritating gases and fumes.

#### (c) Special protective equipment and precautions for fire-fighters

Firefighters must wear fire resistant protective equipment. Wear self-contained breathing apparatus.



Fluorescent material

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**6. Accidental release measures**

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**(a) Personal precautions, protective equipment and emergency procedures**

Handle in accordance with good industrial hygiene and safety practice.

**(b) Methods and materials for containment and cleaning up**

For large amounts: Transfer product into suitable containers.

For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations

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**7. Handling and storage**

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**(a) Precautions for safe handling**

Ensure thorough ventilation of stores and work areas.

**(b) Conditions for safe storage, including any incompatibilities**

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

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**8. Exposure controls/personal protection**

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**(a) Control parameters**

Component	OSHA		NIOSH	
	PEL-TWA	PEL-STEL	REL-TWA	REL-STEL
131-11-3	5 mg/m <sup>3</sup>	Not Established	5 mg/m <sup>3</sup>	Not Established
136-60-7	Not Established	Not Established	Not Established	Not Established
75203-51-9	Not Established	Not Established	Not Established	Not Established
7722-84-1	1.4 mg/m <sup>3</sup>	Not Established	1.4 mg/m <sup>3</sup>	Not Established
7732-18-5	Not Established	Not Established	Not Established	Not Established
10075-85-1	Not Established	Not Established	Not Established	Not Established

**(b) Appropriate engineering controls**

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**(c) Personal protective equipment**

Respiratory protection: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.  
50 mg/m<sup>3</sup>  
Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100.  
125 mg/m<sup>3</sup>

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Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

250 mg/m<sup>3</sup>

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

2000 mg/m<sup>3</sup>

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any appropriate escape-type, self-contained breathing apparatus.

Hand protection:

Wear appropriate chemical resistant gloves.

Eye/face protection:

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin/body protection:

Wear appropriate chemical resistant clothing.

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## 9. Physical and chemical properties

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<b>(a) Appearance</b>	Liquid
<b>(b) Odor</b>	Not available.
<b>(c) Odor threshold</b>	Not available.
<b>(d) pH</b>	Not available.
<b>(e) Melting point/freezing point</b>	Not available.
<b>(f) Initial boiling point and boiling range</b>	Not available.

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<b>(g) Flash point</b>	>200°F (93.3°C) Closed Cup
<b>(h) Evaporation rate</b>	Not available.
<b>(i) Flammability</b>	No
<b>(j) Upper/lower flammability or explosive limits</b>	Not available.
<b>(k) Vapor pressure</b>	Not available.
<b>(l) Vapor density</b>	Not available.
<b>(m) Relative density</b>	Not available.
<b>(n) Solubility(ies)</b>	Not available.
<b>(o) Partition coefficient: n-octanol/water</b>	Not available.
<b>(p) Auto-ignition temperature</b>	Not available.
<b>(q) Decomposition temperature</b>	Not available.
<b>(r) Viscosity</b>	Not available.

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## 10. Stability and reactivity

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### (a) Reactivity

Stable under recommended storage and handling conditions (see section 7, handling and storage).

### (b) Chemical stability

Stable under normal conditions.

### (c) Possibility of hazardous reactions

Will not polymerize.

### (d) Conditions to avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

### (e) Incompatible materials

Acids, bases, oxidizing materials.

### (f) Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and other toxic vapors.

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## 11. Toxicological information

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### (a) Information on the likely routes of exposure

Inhalation:	Not available.
Ingestion:	Not available.
Skin contact:	Not available.
Eye contact:	Redness.

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**(b) Information on toxicological characteristics**

<b>Acute toxicity:</b>	131-11-3	Oral LD50 Rat 6800 mg/kg (Source: IUCLID)
	136-60-7	No data available.
	75203-51-9	No data available.
	7722-84-1	Oral LD50 Rat 801 mg/kg (Source: IUCLID) Dermal LD50 Rat 4060 mg/kg (Source: IUCLID); Dermal LD50 Rabbit 2000 mg/kg (Source: IUCLID) Inhalation LC50 Rat 2 g/m <sup>3</sup> 4 h (Source: IUCLID)
	10075-85-1	No data available.
<b>Skin corrosion/irritation:</b>		No data available.
<b>Serious eye damage/irritation:</b>		No data available.
<b>Respiratory sensitization:</b>		No data available.
<b>skin sensitization:</b>		No data available.
<b>Carcinogenicity:</b>		Not listed by IARC and NTP.
<b>Germ Cell Mutagenicity:</b>		No data available.
<b>Reproductive Toxicity:</b>		No data available.
<b>STOT-Single Exposure:</b>		No data available.
<b>STOT-Repeated Exposure:</b>		No data available.
<b>Aspiration Hazard:</b>		No data available.

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**12. Ecological information**

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**(a) Ecotoxicity**

131-11-3	Freshwater Fish: 96 Hr LC50 Pimephales promelas: 39 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 49.5 mg/L; 96 Hr LC50 Lepomis macrochirus: 37 - 69 mg/L [static]; 96 Hr LC50 Pimephales promelas: 121 mg/L [static]; 96 Hr LC50 Leuciscus idus: 100 - 220 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 56 mg/L [flow-through] Water Flea: 48 Hr EC50 Daphnia magna: 33 mg/L Freshwater Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 20.6 - 45.8 mg/L; 72 Hr EC50 Pseudokirchneriella subcapitata:
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	28.4 - 71 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: 142 mg/L [static]; 96 Hr EC50 Skeletonema costatum: 26.1 mg/L; 72 Hr EC50 Desmodesmus subspicatus: 204 mg/L
136-60-7	No data available.
75203-51-9	No data available.
7722-84-1	Freshwater Fish: 96 Hr LC50 Pimephales promelas: 16.4 mg/L; 96 Hr LC50 Lepomis macrochirus: 18 - 56 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 10.0 - 32.0 mg/L [static] Water Flea: 24 Hr EC50 Daphnia magna: 7.7 mg/L; 48 Hr EC50 Daphnia magna: 18 - 32 mg/L [Static] Freshwater Algae: 72 Hr EC50 Chlorella vulgaris: 2.5 mg/L
10075-85-1	No data available.

**(b) Persistence and Degradability**

Based on best current information, there is no data known associated with this product.

**(c) Bioaccumulative potential**

Based on best current information, there is no data known associated with this product.

**(d) Mobility in soil**

Based on best current information, there is no data known associated with this product.

**(e) Other adverse effects**

No information available.

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**13. Disposal considerations**

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**(a) Safe handling and methods of disposal**

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U102. Dispose in accordance with all applicable regulations.

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**14. Transport information**

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<b>(a) UN number</b>	Not regulated as dangerous goods.
<b>(b) UN Proper shipping name</b>	Not regulated as dangerous goods.
<b>(c) Transport hazard class(es)</b>	Not regulated as dangerous goods.
<b>(d) Packing group (if applicable)</b>	Not regulated as dangerous goods.
<b>(e) Marine pollutant (Yes/No)</b>	No
<b>(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)</b>	No information available.
<b>(g) Special precautions</b>	No information available.

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**15. Regulatory information**

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**(a) Safety, health and environmental regulations specific for the product in question**

<b>CAS No.</b>	<b>USA TSCA</b>	<b>EU EINECS</b>	<b>Korea ECL</b>	<b>China IECSC</b>	<b>Canada DSL</b>
131-11-3	Listed	Listed	Listed	Listed	Listed
136-60-7	Listed	Listed	Listed	Listed	Listed
75203-51-9	Not listed	Listed	Listed	Not listed	Not listed
7722-84-1	Listed	Listed	Listed	Listed	Listed
7732-18-5	Listed	Listed	Listed	Listed	Listed
10075-85-1	Listed	Listed	Listed	Not listed	NDSL

Remark: The above-mentioned search results are based on the Non-Confidential Inventory.

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**16. Other information, including date of preparation or last revision**

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**(a) Preparation and revision information**

Date of previous revision: Not applicable. Date of this revision: 23/12/2013

Revision summary: The first New SDS

**(b) Abbreviations and acronyms**

NIOSH	The National Institute for Occupational Safety and Health
OSHA	The United States Occupational Safety and Health Administration
TWA	time-weighted average
STEL	Short term exposure limit
TSCA	Toxic Substances Control Act, The American chemical inventory
DSL	Domestic Substances List
EINECS	European Inventory of Existing Commercial chemical Substances
ECL	Existing Chemicals List, the Korean chemical inventory
IECSC	Inventory of existing chemical substances in China
IARC	International agency for research on cancer
NTP	National Toxicology Program

**(c) Disclaimer**

The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

----- End of the SDS -----



**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**Jiangsu TÜV Product Service Ltd. Guangzhou Branch  
TÜV SÜD Group**

Engineer: \_\_\_\_\_

*Echo He*

**Echo He**

Technical Report checked: \_\_\_\_\_

*Kevin Zhang*

**Kevin Zhang**





# SAFETY DATA SHEET

The Safety Data Sheet is supplied as a service to you. For other related information, please visit:  
<http://www.rayovac.com>

## 1. IDENTIFICATION

PRODUCT NAME: Zinc Chloride Battery  
SIZES: All sizes  
EMERGENCY HOTLINE: 800-424-9300 (24 hr, Chemtrec)  
EDITION DATE: 08/11/2014

## 2. HAZARD IDENTIFICATION

We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirements, Canadian WHMIS requirements or GHS requirements.

### Emergency Overview

OSHA Hazards-not applicable  
Target Organs-not applicable  
GHS Classification-not applicable  
GHS Label Elements, including precautionary Statement-not applicable  
Pictogram-not applicable  
Signal words-not applicable  
Hazard statements-not applicable  
Precautionary statements-not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS #	%	TLV**/TWA
Steel	7439-89-6	8-14	Not Listed
Manganese Dioxide	1313-13-9	28-32	5.0 mg/m <sup>3</sup> (TWA)
Zinc	7440-66-6	16-20	5.0 mg/m <sup>3</sup> (ZnOas Fume)
Acetylene Black	1333-86-4	7-13	3.5 mg/m <sup>3</sup> (Carbon Black, TWA)
Ammonium Chloride	12125-02-9	1-3	Not Listed
Zinc Chloride	7646-85-7	6-10	Not Listed
Lead	7439-92-1	<0.02	50 ug/m <sup>3</sup> (TWA)
Water, paper, plastic, other	---	Balance	---

\*Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 11-01-2012

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#### 4. FIRST AID INFORMATION

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE: None (see section 2 and 4 for fire or rupture situations)

EMERGENCY FIRST AID PROCEDURES:

**Skin and Eyes:**

In the event that battery ruptures, flush exposed skin with flowing lukewarm water for a minimum of 15 minutes. Get immediate medical attention for eyes. Wash skin with soap and water.

**Swallowing:**

*If you or your doctor suspects that a battery has been ingested-for assistance in the US call the NATIONAL BATTERY INGESTION HOTLINE any time at (202) 625-3333; in Canada call 416-813-5900.*

For more information, please visit:

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/batteryingest.pdf>

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#### 5. FIRE FIGHTING MEASURES

FLASH POINT: NA

LOWER (LEL): NA

FLAMMABLE LIMITS IN AIR (%): NA

UPPER (UEL): NA

EXTINGUISHING MEDIA: Use water, foam, or dry powder as appropriate.

AUTO-IGNITION: NA

**SPECIAL FIRE FIGHTING PROCEDURES:** As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (See section 2).

**SPECIAL FIRE OR EXPLOSION HAZARDS:** Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of corrosive materials.

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#### 6. ACCIDENTAL RELEASE MEASURES

**TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:** In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container.

**REPORTING PROCEDURE:** Report all spills in accordance with Federal, State and Local reporting requirements.

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## 7. HANDLING AND STORAGE

Store batteries in a dry place. Storing unpackaged cells together could result in cell shorting and heat build-up. Do not recharge. Do not puncture or abuse.

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## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA  
VENTILATION: Local Exhaust: NA  
Mechanical (General): NA  
Special: NA  
Other: NA  
PROTECTIVE GLOVES: NA  
EYE PROTECTION: NA  
OTHER PROTECTIVE CLOTHING: NA

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point @ 760 mm Hg (°C):	NA	Percent Volatile by Volume (%):	NA
Vapor Pressure (mm Hg @ 25°C):	NA	Evaporation Rate (Butyl Acetate = 1):	NA
Vapor Density (Air = 1):	NA	Physical State:	NA
Density (grams/cc):	NA	Solubility in Water (% by Weight):	NA
pH:	NA	Appearance and Odor:	Geometric solid object

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## 10. STABILITY AND REACTIVITY

STABLE OR UNSTABLE: Stable  
INCOMPATIBILITY (MATERIALS TO AVOID): NA  
HAZARDOUS DECOMPOSITION PRODUCTS: NA  
DECOMPOSITION TEMPERATURE (0°F): NA  
HAZARDOUS POLYMERIZATION: Will Not Occur  
CONDITIONS TO AVOID: Avoid electrical shorting, puncturing or deforming

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## 11. TOXICOLOGICAL INFORMATION

INGREDIENT NAME	CAS #	%	TLV*/**TWA
Steel	7439-89-6	8-14	Not Listed
Manganese Dioxide	1313-13-9	28-32	5.0 mg/m <sup>3</sup> (TWA)
Zinc	7440-66-6	16-20	5.0 mg/m <sup>3</sup> (ZnOas Fume)
Acetylene Black	1333-86-4	7-13	3.5 mg/m <sup>3</sup> (Carbon Black, TWA)
Ammonium Chloride	12125-02-9	1-3	Not Listed
Zinc Chloride	7646-85-7	6-10	Not Listed
Lead	7439-92-1	<0.02	50 ug/m <sup>3</sup> (TWA)
Water, paper, plastic, other	---	Balance	---

## 12. ECOLOGICAL INFORMATION

Under normal use these batteries do not release their ingredients into the environment. Damaged or abused batteries can release small amounts of zinc, and manganese. Damaged batteries carelessly discarded could release small amounts of zinc to storm or surface water. Do not place in fire. Dispose of properly when discharged. Use a recycling outlet if available. Those collecting batteries should follow state and federal regulations.

Partially discharged damaged batteries can overheat and cause fires in the presence of other combustible materials.

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## 13. DISPOSAL CONSIDERATIONS

Always comply with Federal, state or local requirements. If you choose to retain discharged batteries and recycle be sure to store them out of the reach of children and pets. Do not store with adult medications of similar size or shape. For additional information on disposal/reclaim options, visit:

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/Companies%20Claiming%20to%20Recycle.MARCH2005.pdf>

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## 14. TRANSPORTATION INFORMATION

TRANSPORTATION-SHIPPING: These are considered dry-cell batteries and they are non-dangerous goods for transportation. These batteries must be packed in a way to prevent short circuits or generation of a dangerous quantity of heat.

USDOT – See Special Provision 130.

IMDG/Ocean – Not Listed.

ICAO/IATA – See Special Provision A123. This special provision also states to put the words “not restricted” and “special provision A123” on the air waybill when an air waybill is issued.

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## 15. REGULATORY INFORMATION

**SARA 313:** Notification is not required because these products are article(s) that do not release a covered toxic chemical under the normal conditions of storage, use, or handling.

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NOTICE: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Spectrum Brands Inc. (Rayovac) makes no warranty expressed or implied.

# SAFETY DATA SHEET

## 1. Product and Company Identification

**Red Emergency Flare - No Perchlorate (NPC)**  
**Formulation**

**Identification:**

The NPC flare will have the following symbol on it:

**Synonyms:** Emergency Road Flare  
Railway Flare  
NSN#: 1370-01-009-2593



**Identified Use:** Emergency signal

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

**Manufacturers Information** Orion Safety Products  
28320 St. Michaels Rd  
Easton, MD 21601  
800-637-7807  
410-822-0318

**EMERGENCY**

**CHEMTREC**  
1-800-424-9300

## 2. Hazards Identification

### GHS Classifications

Skin Irritation	Category 2	H315
Eye Irritation	Category 2A	H319
STOT - Single Exposure	Category 3	H335

### GHS Label Elements

Pictograms



Signal Word

**Warning**

Hazard Statements

H315 /319 Causes skin and serious eye irritation  
H335 May cause respiratory irritation

Precautionary Statements

P103 Keep out of reach of children  
P261 Avoid breathing dust/smoke.  
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  
P501 Dispose of contents / container in accordance with local and national regulations.

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.

**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	<75%
Sulfur	7704-34-9	231-722-6	<25%
Potassium Nitrate	7757-79-1	231-818-8	<25%
Paraffinic Oil	64742-54-7	232-384-2	<10%
Potassium Chlorate	3811-04-9	231-100-4	<5%
Waxy sawdust	mixture	none	<5%
Polyvinyl Chloride	9002-86-2	200-831-0	<5%
Shellac	mixture	none	<1%
Charcoal	1333-86-4	231-153-3	<1%

Note: Due to Confidential Business Information i. e. "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 immediately if burned or 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. Do not use boric acid to rinse with; sulfur is an acid irritant. 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**

Burning flare can cause severe burns if in contact with body.  
For burns to skin, cool with water and bandage appropriately.  
Seek medical attention. If eye is burned, cover eye and get medical aid immediately

## 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>	Use copious amounts of water to extinguish fire comprised of flares. Flares contain oxidizers and will continue to burn unless a significant amount of water is used. Do not breathe smoke.		
<b>Further information</b>	No data available		

## 6. Accidental Release Measures

### Personal Precautions / Protective Equipment / Emergency Procedures

Do not breathe 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. 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 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.

## 7. Handling and Storage

### Precautions for Safe Handling

Hold and point flare away from body when igniting. Exercise caution when using this product since molten flecks may be emitted. Produces hot flame. Burning flare can cause severe burns if in contact with body. Avoid contact with clothing and other combustible materials. Wear eye protection during use. Follow instructions on package. Use outdoors only! Do not ignite or burn product inside a vehicle or building. Avoid inhalation of smoke. Do not dismantle. Do not allow contents to touch eyes, skin or clothing. Do not ingest contents as they may be harmful if swallowed. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with heat, sparks, and flame.

### Conditions for Safe Storage, Including Any Incompatibilities

Store 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. Do not store partially burned flares in a vehicle, warehouse, or any other building. Plastic bags are provided for moisture protection. Keep partially used bags sealed at all times.

## 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/m <sup>3</sup> .	Nuisance dust 15 mg/m <sup>3</sup> .
Paraffinic Oil	5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Potassium Chlorate	No Airborne Exposure Limits established	No Airborne Exposure Limits established
Waxy sawdust	Not Established	Not Established
Polyvinyl Chloride	No known hazardous components above regulatory thresholds in this product.	No known hazardous components above regulatory thresholds in this product.
Shellac	Not Established	Not Established
Charcoal	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. 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 materials.

**General Hygiene** Use product outdoors away from combustible products. For cleanup of spilled materials, emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous materials.



## 9. Physical and Chemical Properties

<b>Appearance (color, physical form, shape):</b> Yellow to grey powder	<b>Melting Point:</b> Not available	<b>Solubility:</b> Not available
<b>pH:</b> Not available	<b>Freezing Point:</b> Not applicable	<b>Evaporation Rate:</b> Not applicable
<b>Boiling Point / Range:</b> Not applicable	<b>Specific Gravity:</b> Not applicable	<b>Vapor Density:</b> Not applicable
<b>Vapor Pressure:</b> Not applicable	<b>Odor Threshold:</b> No data available	<b>Flash Point:</b> Not available
<b>Odor:</b> No data available	<b>Flammability Limits:</b> No data available	<b>Relative Density:</b> No data available
<b>Flammability:</b> No data available	<b>Viscosity:</b> No data available	
<b>Partition Coefficient:</b> No data available		
<b>Auto Ignition Temperature:</b> 360°F		<b>Decomposition Temperature:</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> Combustible materials, heat, flames, sparks and other sources of ignition. Moisture.	<b>Incompatible Materials</b> Strong acids, strong fuels, ammonia salts, and strong bases. Strong oxidizers; chlorate salts.	<b>Hazardous Decomposition Products</b> Carbon monoxide, carbon dioxide, sulfur oxides, and nitrogen oxides.

## 11. Toxicology Information

### Ingredient acute toxicity information

Ingredient	Oral LD50	skin LD50	LC50
Strontium Nitrate	Rat: 2750 mg/kg	No information found	No information found
Sulfur	Rat:>2000 mg/kg	Rat:>2000 mg/kg	Rat: 79.23 mg/L 4hr
Potassium Nitrate	Rat: 3750 mg/kg	No information found	No information found
Paraffinic Oil	Rat: >2000 mg/kg	Rat: >2000 mg/kg	No information found
Potassium Chlorate	Rat: 1870 mg/kg	Rabbit: > 2000 mg/kg	No information found
Waxy sawdust	Rat: > 5000 mg/kg	not stated	not stated
Polyvinyl Chloride	Rat: > 5000 mg/kg	no known hazardous components above regulatory thresholds in this product.	no known hazardous components above regulatory thresholds in this product.
Shellac	Rat: 10000 mg/kg	No information found	No information found
Charcoal	Rat: 15400 mg/kg	Rabbit: 3 g/kg	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</i>
<b>Serious Eye Damage / Irritation</b>	Category 2a – <i>over 10% of ingredients classified as a Category 2a</i>
<b>Respiratory / Skin Sensitization</b>	Not classified (Based on available data, the classification criteria are not met)
<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>	Category 3 – <i>respiratory over 10% of ingredients classified as a Category 3 respiratory STOT hazard</i>
<b>STOT – repeated exposure</b>	Not classified (Based on available data, the classification criteria are not met)
<b>Aspiration Hazard</b>	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

<b>Aquatic Toxicity</b>	<u>Strontium Nitrate:</u> <i>Acute toxicity - Fishes, Carassius auratus, LC100, 9,615 mg/l; Chronic toxicity - Fishes, Gasterosteus aculeatus, LC100, 2,912 mg/l</i> <u>Sulfur:</u> <i>Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - &gt; 180 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - &gt; 5,000 mg/l - 48 h</i> <u>Potassium Chlorate:</u> <i>fish: LC50 oncorhynchus mykiss (rainbow trout) 1750 mg/l - 96 hr, EC50 daphnia magna (water flea) 1093 mg/l 24 hr</i> <u>Paraffinic Oil:</u> <i>Oil Mist, Mineral Lepomis macrochirus (LC50) 96 hour(s) &gt;100 mg/l Oncorhynchus mykiss (LC50) 96 hour(s) &gt;100 mg/l</i> <u>Potassium Nitrate:</u> <i>fish: Guppy (Poecilia Reticulata) LC50 180 mg/L (96 h); zooplankton: Daphnia magna LC50 490mg/l - 48hr</i>
<b>Persistence / Degradability</b>	<u>Potassium Nitrate:</u> Soluble in water Persistence is unlikely based on information available.
<b>Bioaccumulation / Accumulation</b>	No information found
<b>Mobility in Environmental Media</b>	<u>Strontium Nitrate:</u> <i>Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption</i> <u>Potassium Nitrate:</u> <i>Will likely be mobile in the environment due to its water solubility.</i>
<b>Other adverse effects</b>	No information found

### 13. Disposal Considerations

#### Disposal methods

Flares should be allowed to burn to completion. Partially burned or unburned flares, spilled contents, and ash from burned flares should be disposed of in accordance with federal, state, and local requirements. Consult factory for any additional disposal concerns.

### 14. Transportation Information

Description	ID Number	shipping name	hazard class	packing group	EX Number	Reportable Quantities	Shipping method
<b>Domestic Shipments</b>							
No inner packaging	*NA1325	Fusee	4.1	II	EX1992090001	none	Ground only
Retail Packaging	**UN3178	Flammable solid, inorganic (highway flares or fusees)	4.1	II	EX2002110114	none	Ground only
<b>International / Air</b>							
Inner Packaging (bag)	UN0373	Signal devices, hand	1.4S		EX1992090001	none	Air / ground

\* As noted on EX1992090001

\*\* According to 49CFR, Exception for Class 4, flares properly packaged and classed as UN3178, Flammable solid, inorganic (highway flares or fusees), may be renamed "Consumer Commodity" and reclassified as ORM-D and offered for transportation and transported in accordance with the applicable provisions of that subchapter.

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	no	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
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
Waxy sawdust	yes	no	no	no	no	no	no	no	no	no	no
Polyvinyl Chloride	yes	no	no	no	no	no	yes	no	no	no	no
Shellac Mixture	yes	no	no	no	yes	no	unknown	unknown	unknown	unknown	Unknown
Charcoal	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		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		
Paraffinic Oil	no	1437	no		No results		yes		not listed		
Potassium Chlorate	yes	1560	yes		C Oxidizing materials D1B Toxic materials		yes		2		
Waxy sawdust	yes	No	no		No results		yes		not listed		
Polyvinyl Chloride	no	3622	no		No results		yes		not listed		
Shellac Mixture	no	No	no		No results		unknown		not listed		
Charcoal	yes	Yes	yes		D2A Very toxic materials D2B Toxic materials		yes		Nwg		

### 16. Other Information

Revision Information: May 2015

NFPA Rating		HMIS Rating	
Flammability	1	Flammability	1
Health	2	Health	2
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  
 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



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