



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Fluorescein Dye Marker
SAR Fluorescein Dye Marker

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	
Acute Toxicity	Category 5
Serious Eye Damage / Irritation	Category 2B

Hazard Statements:
Causes eye irritation
Precautionary Statements:
Keep out of reach of children.
Do not dismantle.
Do not get in eyes, on skin, or on clothing

NFPA Rating

Flammability 2
Health 1
Reactivity 0

HMIS Rating

Flammability 2
Health 1
Physical Hazard 0

3. Composition / Information on Ingredients

Component	CAS #	EINCS #	%age
Sodium Fluorescein	518-47-8	208-253-0	>50%
Sodium Bicarbonate	144-55-8	205-633-8	<50%
Adipic Acid	124-04-9	204-673-3	<20%

4. First Aid Measures

Inhalation If contents are inhaled, remove to fresh air. If not breathing, give artificial respiration and get medical aid.
Skin If contents are contacted, wash with area with soap and water for 15 minutes. 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 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** Do not use foam or dry chemical.
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.
Specific Hazards Arising from the Chemical Avoid dust / air suspensions. As with any organic powder, the contents may be capable of a dust explosion.
Flashpoint Not Applicable **Flammability Limits** Not Applicable **Ignition Temperature** >167F

6. Accidental Release Measures

Personal Precautions Do not breathe contents and avoid contact with skin and eyes. Dye will stain / color all exposed areas - wear Tyvek coveralls, goggles or face mask, dust mask / respirator and booties if available. If not, wear clothing with long sleeves, long pant legs, dust mask, rubber or nitrile gloves, safety goggles, and safety shoes when cleaning up contents.
Environmental Precautions Contents are highly soluble in water and the dust has a great ability to migrate.

Methods for Containment and Clean-up

Place absorbent material onto floor before sweeping. Clean area in a manner so as to minimize dust. Wear gloves, safety glasses/goggles, and full-coverage clothing to minimize exposure and dye effects. For large spills, a dust mask is recommended. Pick up spill for recovery or disposal and place in lidded container. Wash area with soap and plenty of water. Material is completely gone when no additional green color is detected in wash water.

7. Handling and Storage

Handling Contents will stain – handle with caution. Wear appropriate eye protection when using. Follow instructions on package. Avoid ingestion and inhalation of contents. Wash thoroughly after handling. Do not disassemble signal.

Storage Store in a cool, dry place. Store away from food and beverages. Keep at temperature not exceeding: 60 °C (140 °F)

8. Exposure Controls / Personal Protection

Exposure Limits	OSHA PEL	ACGIH TLV
Sodium Fluorescein	10mg/m3	Nuisance particulates 10mg/m3 total
Sodium Bicarbonate	5 mg/m3 respirable dust fraction	None established
Adipic Acid	None established	5 mg/m3

Engineering Controls When cleaning up contents, use local and/or general exhaust.
Eye / Face Protection Safety glasses or goggles
Skin Protection No significant health effects but contents will stain all exposed areas. Wear Tyvek coveralls, rubber or nitrile gloves, and booties if available. If not, wear clothing with long sleeves, long pant legs, rubber or nitrile gloves, and safety shoes when cleaning up contents.. 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 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 and black rubber capsule containing water activated dye powder
pH: Not available **Melting Point:** >290F **Solubility:** Highly soluble
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, and ignition sources. **Incompatible Materials** Oxidizing agents, acids **Hazardous Decomposition Products** Nitrogen oxides, carbon monoxide, carbon dioxide

11. Toxicology Information

Toxicology	Oral LD50	skin LD50	LC50
Sodium Fluorescein	mouse: 4738 mg/kg	No Data	No Data
Sodium Bicarbonate	rat > 4,000 mg/kg	No Data	rat> 4.74 mg/l
Adipic Acid	rat - 5,050 mg/kg	rabbit >7,940 mg/kg	No Data

Acute Dose Effects

Contact with contents may cause mild eye irritation. Contact with material may dye skin and/or discolor perspiration and urine.

Irritation Contact with contents may cause mild eye irritation

Carcinogenicity None of the ingredients are listed by NTP, IARC or regulated as a Carcinogen by OSHA

Genetic Effects No information found

Developmental Effects No information found

Target Organ Effects Eye, skin

Repeated Dose Effects

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

Corrosivity No information found

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
<i>Sodium Fluorescein</i> - LC50 - Oncorhynchus mykiss (rainbow trout) - 1,372 mg/l - 96 h; EC50 - Daphnia pulex (Water flea) - 337 mg/l - 48 h <i>Sodium Bicarbonate</i> - Fishes, Oncorhynchus mykiss, LC50, 96 h, 7,700 mg/l; Fishes, Oncorhynchus mykiss, NOEC, 96 h, 2,300 mg/l; - Fishes, Lepomis macrochirus, LC50, 96 h, 7,100 mg/l; - Fishes, Lepomis macrochirus, NOEC, 96 h, 5,200 mg/l; - Crustaceans, Daphnia magna, EC50, 48 h, 4,100 mg/l; - Crustaceans, Daphnia magna, NOEC, 48 h, 3,100 mg/l <i>Adipic Acid</i> - Warm water fish: 96-hr LC50 in Fathead minnow: 97 mg/L (Harmful) Cold water fish: 48-hour LC50 in Rainbow trout: > 100 mg/L: Practically nontoxic	No information found	No information found	No information found

13. Disposal Considerations

Dispose of contaminated product, empty container and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. This material is not considered to be a hazardous waste and no special disposal requirements are expected.

14. Transportation Information

	shipping name	hazard class	ID Number	packing group	EX Number	Reportable Quantities
United States & International	Non-hazardous	n/a	n/a	n/a	n/a	n/a

15. Regulatory Information

US Regulations	TSCA	CERCLA	CWA	CAA	SARA 313	SARA 302	Acute	Chronic	Fire	Reactivity	Pressure
Sodium Fluorescein	yes	no	no	no	no	no	No information found	No information found	No information found	No information found	No information found
Sodium Bicarbonate	yes	no	no	no	no	no	not regulated	not regulated	not regulated	not regulated	not regulated
Adipic Acid	yes	5000 lb or 2270 kg	no	no	no	no	yes	no	no	no	no

US States				Canada	WHMIS	DSL	Europe	wgk
Prop 65	NJ	PA						
Sodium Fluorescein	no	not listed	no		No results	yes		not listed
Sodium Bicarbonate	no	no	no		Does not meet criteria.	yes		1
Adipic Acid	no	0026	no		D2B	yes		1

16. Other Information

Revision Information: November, 2011

Risk and Safety Phrases:

R36 Irritating to eyes.
S2 Keep out of the reach of children.
S8 Keep container dry.
S25 Avoid contact with eyes.

Key / Legend:

HMS: 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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