

Safety Data Sheet (SDS)

Revision Number: 1.0	Last updated: October 2013
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1. Product and Company Identification

Product Name:	SensoLyte[®] pNPP Secreted Alkaline Phosphatase Reporter Gene Assay *Colorimetric*
Manufacturer/Supplier:	AnaSpec, Inc. www.anaspec.com 34801 Campus Drive Fremont, CA 94555 Tel: 510-791-9560 Fax: 510-791-9572 Email: service@anaspec.com
Catalog Number	71233
Unit Size	1 kit

2. Hazards Identification

Emergency Overview:

GHS Hazard Classification:

GHS Physical Hazards

- Component A: N/A
- Component B: Not flammable or combustible.
- Component C: Corrosive(Category 1A)
- Component D: Not flammable or combustible.
- Component E: Not flammable or combustible.

GHS Health and Environmental Hazards

- Component A: Irritant to eyes, skin and respiratory system.
- Component B: Acute toxicity, Oral (Category 2). Acute toxicity, Dermal (Category 1).
Acute aquatic toxicity (Category 1). Chronic aquatic toxicity (Category 1)
- Component C: Serious eye damage (Category 1)
- Component D: Irritant to eyes and skin,
- Component E: Irritant to eyes and skin, Acute toxicity, oral

GHS Signal Words:

- Component A: Warning
- Component B: Danger
- Component C: Danger
- Component D: Not Applicable
- Component E: Danger

GHS Hazard Statements:

- Component A: None

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Component B: H300 + H310 Fatal if swallowed or in contact with skin. H410 Very toxic to aquatic life with long lasting effects.

Component C: H314 Causes severe skin burns and eye damage

Component D: Not Applicable

Component E: H302 Harmful if swallowed. H316 Causes mild skin irritation. H318 Causes serious eye damage. H411 Toxic to aquatic life with long lasting effects.

GHS Precautionary Statements:

Component A: None

Component B: P264 Wash hands thoroughly after handling. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing. P302 + P352 IF ON SKIN: Gently wash with plenty of soap and water. P310 Immediately call a POISON CENTER or doctor/ physician. P501 Dispose of contents/ container to an approved waste disposal plant.

Component C: P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/ physician.

Component D: None

Component E: P273 Avoid release to the environment. P280 Wear protective gloves/ eye protection/ face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification:

Component A:	Component B:	Component C:	Component D:	Component E:
Health hazard: 0	Health hazard: 4	Health hazard: 3	Health hazard: 0	Health hazard: 2
Flammability: 0	Flammability: 0	Flammability: 0	Flammability: 0	Flammability: 1
Physical hazards: 0	Physical hazards: 0	Physical hazards: 1	Physical hazards: 0	Physical hazards: 0

NFPA Rating:

Component A:	Component B:	Component C:	Component D:	Component E:
Health hazard: 0	Health hazard: 4	Health hazard: 3	Health hazard: 0	Health hazard: 2
Fire: 0	Fire: 0	Fire: 0	Fire: 0	Fire: 1
Reactivity hazard: 0	Reactivity hazard: 0	Reactivity hazard: 1	Reactivity hazard: 0	Reactivity hazard: 0

3. Composition / Information on Ingredients

Ingredients/Components:

Chemical Name:	Description	CAS Number:
Component A	pNPP	4264-83-9
Component B	Proprietary	N/A
Component C	Proprietary	1310-73-2
Component D	Proprietary	N/A
Component E	Triton X-100	9002-93-1

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4. First Aid Measures**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Component A

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Eyes: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Component B

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

Eyes: Flush eyes with water as a precaution.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Component C

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Component D

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Component E

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin: Wash off with soap and plenty of water. Consult a physician

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Fire Fighting Measures

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<i>Extinguishing media:</i>	Component A, SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. Component B, C, D and E: Use water spray, dry chemical, or carbon dioxide.
<i>Special firefighting procedures:</i>	Component A, B, C, D and E: Wear self-contained breathing apparatus if necessary.
<i>Unusual fire and explosions hazards:</i>	Component A and D: Not applicable Component B and C: Hazardous decomposition products formed under fire conditions. - Sodium oxides Component E: Hazardous decomposition products formed under fire conditions - Carbon oxides

6. Accidental Release Measures

<i>Containment and spill response</i>	Component A Small spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. Large spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system Component D: Collect spill in suitable container for disposal. Component B, C and E: Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
<i>PPE</i>	Use personal protective equipment

7. Handling and Storage

Component A:

Handling: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 0°C (32°F). Freeze

Component B:

Handling: Avoid contact with skin and eyes. Avoid formation of aerosols. Provide appropriate exhaust ventilation.

Storage: Keep container tightly closed in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Do not store near acids.

Component C:

Handling: Avoid inhalation of vapor or mist.

Storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Component D:

Handling: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened

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must be carefully resealed and kept upright to prevent leakage.

Storage: Recommended storage temperature: 2 - 8 °C

Component E:

Handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure Controls / Personal Protection

<i>Engineering controls</i>	<p>Component A: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.</p> <p>Component B: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).</p> <p>Component C: Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.</p> <p>Exposure limits ACGIH (United States) CEIL: 2 mg/m³ OSHA (United States) CEIL: 2 mg/m³ NIOSH REL (United States, 1994). CEIL: 2 mg/m³ OSHA Final Rule (United States, 1989). CEIL: 2 mg/m³</p> <p>Component D and E: Contains no substances with occupational exposure limit values.</p>
<i>PPE</i>	<p>All components:</p> <p><i>Respiratory System:</i> Wear proper respirator or mask.</p> <p><i>Skin and Body:</i> Wear appropriate work uniform or laboratory coat to prevent skin exposure.</p> <p><i>Hands:</i> Use chemical resistant, impervious gloves. Appropriate techniques should be used to remove potentially contaminated gloves.</p> <p><i>Eyes:</i> Wear chemical splash goggles.</p>

9. Physical and Chemical Properties

<i>Physical State</i>	Component A: solid. Components B, C, D and E: Liquid
<i>Odor</i>	Not determined
<i>Solubility in Water</i>	Soluble
<i>Specific Gravity</i>	Not determined
<i>pH</i>	Component B -8.7 Component C -9.7 Component D -7.4

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<i>Boiling Point</i>	Not determined
<i>Melting Point</i>	Not determined
<i>Flash Point</i>	Not determined
<i>Vapor Pressure:</i>	Not determined
<i>Vapor Density:</i>	Not determined
<u>10. Stability and Reactivity</u>	
<i>Thermal Decomposition</i>	Not applicable
<i>Dangerous Products of Decomposition</i>	Not applicable
<i>Dangerous Reactions</i>	Not applicable
<u>11. Toxicological Information</u>	
<i>RTECS Number</i>	Component A: NA Component B: NA Component C: NA Component D: NA Component E: MD0907700
<i>Toxicity</i>	<p>Component A: Not available</p> <p>Component B: Acute toxicity Oral LD50 LD50 Oral - rabbit - 10 mg/kg Inhalation LC50 LC50 Inhalation - rat - 37 mg/m3 Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other. Behavioral: Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration: Structural or functional change in trachea or bronchi.</p> <p>Dermal LD50 LD50 Dermal - rabbit - 20 mg/kg</p> <p>Component C: Dermal LD50: Corrosive Oral LD50: 400 mg/kg (rabbit) LDLo [PB 234-899 1974] Inhalation LC50: Corrosive TARGET ORGANS: Skin, eyes, mucous membranes Acute effects from overexposure: Sodium hydroxide is corrosive and may produce severe eye, skin and respiratory tract irritation and upper gastrointestinal tract damage. Ingestion of concentrated solutions has caused death in animals and humans. [Gosselin, Smith & Hodge, 1984; PB 234-899 1974] Chronic effects from overexposre: Sodium hydroxide may produce inflammation of the eyes, skin, and mucous membranes. Esophageal carcinoma at the site of a chronic lye stricture has been reported. (Gosselin , Smith & Hodge 1984)</p> <p>Component D: Not available</p> <p>Component E: Oral LD50 LD50 Oral - rat - female - 707 mg/kg</p>

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	LD50 Oral - rat - male - 500 mg/kg Inhalation LC50 no data available Dermal LD50 LD50 Dermal - rabbit - 8,000 mg/kg Other information on acute toxicity no data available
<i>Health Hazards</i>	<i>No data available</i>
<i>Potential Hazards</i>	Potential Health Effects Component A: <i>Inhalation:</i> Inhalation of dust may cause respiratory tract irritation. <i>Ingestion:</i> Expected low hazard. May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea. The toxicological properties of this material have not been fully investigated. <i>Skin:</i> May cause skin irritation. <i>Eyes:</i> Dust may cause eye irritation. Component B, and D: <i>Inhalation:</i> May be harmful if inhaled. May cause respiratory tract irritation. <i>Ingestion:</i> May be harmful if swallowed. <i>Skin:</i> May be harmful if absorbed through skin. May cause skin irritation. <i>Eyes:</i> May cause eye irritation Component C: <i>Inhalation:</i> May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. <i>Ingestion:</i> May be harmful if swallowed. <i>Skin:</i> May be harmful if absorbed through skin. Causes skin burns. <i>Eyes:</i> Causes eye burns. Causes severe eye burns. Signs and Symptoms of Exposure Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation of vapors may cause:, spasm, inflammation and edema of the bronchi, spasm, inflammation and edema of the larynx, Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Component E: <i>Inhalation:</i> May be harmful if inhaled. Causes respiratory tract irritation. <i>Ingestion:</i> Harmful if swallowed. <i>Skin:</i> Harmful if absorbed through skin. Causes skin irritation. <i>Eyes:</i> Risk of serious damage to eyes.
<i>Carcinogenicity:</i>	No data available
<i>OSHA Permissible Exposure Limit(PEL) Data</i>	No data available
<i>ACGIH Threshold Limit Values (TLV)</i>	No data available
<u>12. Ecological Information</u>	

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Component A: No data available

Component B: No data available

Component C:

Toxicity

Bluegill sunfish: 48-hour LC50 = 99 mg/L

Mosquito fish: 96-hour LC50 = 125 mg/L

Brown shrimp (Crangon crangon): 48-hour LC50 = 30 - 100 mg/L

Component D: No data available

Component E:

Toxicity

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 8.9 mg/l - 96.0 h

Toxicity to daphnia

and other aquatic

invertebrates

EC50 - Daphnia - 26 mg/l - 48 h

Persistence and degradability

Biodegradability Biotic/Aerobic Biochemical oxygen demand

Result: 36 % - Not readily biodegradable.

Method: Closed Bottle test

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

Chemical Oxygen

Demand (COD)

2.19 mg/g

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal Considerations

Component A, B and D: Offer surplus and non-recyclable solutions to a licensed disposal company.

Component C: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product

Component E: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport Information: IATA Exempted quantities labeling

<i>UN Number</i>	N/A
<i>Hazard Class</i>	3
<i>Identification Number</i>	N/A
<i>Packing Group</i>	N/A
<i>Proper Shipping Name (DOT)</i>	N/A

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<u>15. Regulatory information</u>	
California Proposition 65:	N/A
US TSCA (Toxic Substance Control Act):	Component A : Listed Component B : Listed Component C : Listed Component D : Listed Component E : Listed
US CERCLA (<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>):	Component A : N/A Component B : Listed Component C : Listed Component D : Not listed Component E : Not listed
US SARA Title III	Component A SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: No SARA hazards Component B SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A Component C SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: Acute Health Hazard Component D SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A Component E SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: Acute Health Hazard
US Clean Air Act:	Component A, B, C, D and E Listed under Hazardous Air Pollutants: <i>Not listed</i> Listed under Class 1 Ozone Depletors: <i>Not listed</i> Listed under Class 2 Ozone Depletors: <i>Not listed</i>
US Clean Water Act:	Components A, B, C, D and E Listed under "Hazardous Substances": <i>Not listed</i> Listed under "Priority Pollutants": <i>Not listed</i> Listed under "Toxic Pollutants": <i>Not listed</i>

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US States: Right-to-Know: Listed in the following States:

Component A:	Component B:	Component C:	Component D:	Component E:
Pennsylvania Revision Date N/A 4264-83-9	Pennsylvania Revision Date N/A	Pennsylvania Revision Date 2007-03-01	Pennsylvania Revision Date N/A	Pennsylvania Revision Date N/A
New Jersey Revision Date N/A 4264-83-9	New Jersey Revision Date N/A	New Jersey Revision Date 2007-03-01	New Jersey Revision Date N/A	New Jersey Revision Date N/A
Massachusetts N/A	Massachusetts Revision Date N/A	Massachusetts Revision Date 2007-03-01	Massachusetts Revision Date N/A	Massachusetts Revision Date N/A

European/International Regulations:

	Component A:	Component B:	Component C:	Component D:	Component E:
EC EINICS	224-246-5	N/A	231-659-4	N/A	N/A
EC Risk statements	36/38 36/37/38	N/A	36/38-35-34	N/A	N/A
WGK	1	1	1	1	1
Canada- DSL/NDL	Listed	Not Listed	Listed	Not listed	Listed
Canada- WHMIS classification	N/A	D2B	D2B	D2B	D2B
Canada- Canadian Ingredient Disclosure List	N/A	Listed	Listed	Listed	Listed

16. Other Information

It is not intended for food, drug, household, agricultural or cosmetic use. A technically qualified individual experienced in handling potentially hazardous chemicals must supervise its use. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Users should make independent decisions regarding completeness of the information based on all sources available. AnaSpec shall not be held liable for any damage resulting from handling or from contact with the above product.

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