Safety Data Sheet (SDS)

Revision Number: 1.1	*Last updated: May2015*

1. Product and Company Identification

Product Name:	**SensoLyte® FDP Alkaline Phosphatase Assay Kit *Fluorimetric***
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	AS-71109
Unit Size	1 kit

2. Hazards Identification

Emergency Overview:

GHS Hazard Classification:

GHS Physical Hazards

Component A: Not hazardous
Component B: Not flammable or combustible.
Component C: Corrosive(Category 1A)
Component D: Not flammable or combustible.
Component E: Not flammable or combustible.
Component F: Flammable liquid (Category 4)
Component G: Not flammable or combustible.

GHS Health and Environmental Hazards

Component A: Not hazardous
Component B: Irritant to eyes and skin
Component C: Serious eye damage (Category 1)
Component D: Irritant to eyes and skin,
Component E: Irritant to eyes and skin, Acute toxicity, oral
Component F: Irritant to eyes and skin
Component G: Irritant to eyes and skin

GHS Signal Words:

Component A: Not hazardous
Component B: Not Applicable
Component C: Danger

Component D: Not Applicable
Component E: Danger
Component F: Warning
Component G: Not Applicable

GHS Hazard Statements:

Component A: Not hazardous
Component B: Not applicable
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.
Component F: H227 Combustible liquid
Component G: Not Applicable

GHS Precautionary Statements:

Component A: - None
Component B: - None
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.

Component F: None
Component G: None

HMIS Classification:

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

NFPA Rating:

Component A:	Component B:	Component C:	Component D:	Component E:	Component F:	Component G:
Health hazard: 0	*Health hazard:* 0	*Health hazard: 3*	*Health hazard: 0*	*Health hazard: 2*	*Health hazard:* 0	*Health hazard:* 0
Fire: 0	*Fire:* 0	*Fire: 0*	*Fire: 0*	*Fire: 1*	*Fire:* 2	*Fire:* 0
Reactivity hazard: 0	*Reactivity hazard:* 0	*Reactivity hazard:* 1	*Reactivity hazard:* 0	*Reactivity hazard:* 0	*Reactivity hazard:* 0	*Reactivity hazard:* 0

3. Composition / Information on Ingredients

Ingredients/Components:

Chemical Name:	*Description*	*CAS Number:*
Component A	FDP	CAS#217305-49-2
Component B	Proprietary	NA
Component C	Proprietary	1310-73-2
Component D	Proprietary	NA
Component E	Triton X-100	9002-93-1
Component F	DMSO	67-68-5
Component G	Proprietary(contains 2 mM sodium azide)	NA

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 breathing becomes difficult, call a physician.

Ingestion: Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

Skin: In case of contact, immediately wash skin with soap and copious amounts of water.

Eyes: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Component B

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 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.

Component F

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

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

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

Eyes: Flush eyes with water as a precaution.

Component G

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.

Fire Fighting Measures	
Extinguishing media:	**Component A, B, D, E, F, and G:** Water, Foam, Dry chemical, CO2. **Component C:** Use water spray, alcohol resistant foam, dry chemical, or carbon dioxide
Special firefighting procedures:	**Component A, C, F, and E:** Wear self-contained breathing apparatus (SCBA) if necessary. **Component B, D and G:** Not applicable
Unusual fire and explosions hazards:	**Component A, B, D and G:** Not applicable **Component C:** Hazardous decomposition products formed under fire conditions. - Sodium oxides **Component E:** Hazardous decomposition products formed under fire conditions - Carbon oxides **Component F:** Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Hazardous carbon oxides and sulphur oxides formed under fire conditions

6. *Accidental* Release Measures	
Containment and spill response	**Component A, B and D:** Collect spill in suitable container for disposal. **Component C and E:** Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas **Component F:** Immediately contact emergency personnel. Prevent further leakage or spillage if safe to do so. Avoid breathing vapors or mist. Remove all sources of ignition and provide ventilation. Collect with an electrically protected vacuum cleaner, by wet-brushing, or by absorbing with vermiculite, sand or earth, and place in appropriate container for disposal. Do not let material enter drains. **Component G:** Contain spill, then clean up with copious amounts of soap and water. Avoid contact with skin or clothing.

PPE	Use personal protective equipment

7 . Handling and Storage

Component A:
Handling: Use PPE. No special requirements.
Storage: Store away from oxidizing agents, dessicated and protected from light. Store at -20°C
Component B:
Handling: 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.
Storage: Recommended storage temperature: 2 - 8 °C
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 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.
Component F:
Handling: Wash thoroughly after handling. Remove and wash any contaminated clothing. Keep container tightly closed and avoid contact with eyes, skin, and clothing. Use with adequate ventilation and avoid ingestion and inhalation. Keep away from heat and flame.
Storage: Store in a tightly closed container away from moisture, heat, and flame. Store away from incompatible substances. Storage under a nitrogen blanket has been recommended.
Component G:
Handling: 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.
Storage: Recommended storage temperature: 2 - 8 °C

8. Exposure Controls / Personal Protection

Engineering controls	**Component A:** Use only with adequate ventilation. Contains no substances with occupational exposure limit values. **Component B, D, E, and G:** Contains no substances with occupational exposure limit

	values. **Component C:** Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or ther engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. **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 **Component F:** Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.
PPE	**Component A:** *Respiratory:* Use respirators in case of insufficient ventilation. *Hand:* Impervious gloves. *Eye:* Tightly fitting safety goggles. Face shield (8-inch minimum). **Components B, D and G:** *Respiratory:* Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). *Hand:* Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. *Eye:* Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). *Skin and body:* impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. **Component C:** Respiratory: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator

	cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Hand: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Eye: Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin and body: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. **Component E:** *Respiratory system:* Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). *Hands:* Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. *Eyes:* Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). *Skin and body:* Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace **Component F:** *Respiratory System:* A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. *Skin and Body:* Wear appropriate work uniform or laboratory coat to prevent skin exposure. *Hands:* Use chemical resistant, impervious gloves. Appropriate techniques should be used to remove potentially contaminated gloves. *Eyes:* Wear chemical splash goggles.

9. Physical and Chemical Properties	
Physical State	Component A: solid. Components B, C, D, E, F and G: Liquid
Odo	Not determined
Solubility in Water	Soluble
Specific Gravity	Not determined
pH	Component B – 8.7 Component D – 7.4 Component C - 9.7
Boiling Point	Not determined
Melting Point	Not determined
Flash Point	Not determined
Vapor Pressure:	Not determined
Vapor Density:	Not determined
10.Stability and Reactivity	
Thermal Decomposition	Not applicable
Dangerous Products of Decomposition	No if used at normal coditions
Dangerous Reactions	**No if used at normal coditions**
11.Toxicological Information	
RTECS Number	**Component A**: NA **Component B:** NA **Component C:** NA **Component D:** NA **Component E:** MD0907700 **Component F:** PV6210000 **Component G:** NA
Toxicity	**Component A*:*** Not available **Component B:** Not available **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) **Component D:** Not available **Component E:** **Oral LD50** LD50 Oral - rat - female - 707 mg/kg 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 **Component F: DMSO** *For **DMSO*** Oral LD50 LD50 Oral - rat - 14,500 mg/kg Inhalation LC50 LC50 Inhalation - rat - 4 h - 40250 ppm Dermal LD50 LD50 Dermal - rabbit - > 5,000 mg/kg **Component G: Not available**
Health Hazards	*No data available*
Potential Hazards	**Potential Health Effects** **Component A:** Inhalation: May be harmful by inhaled Ingestion May be harmful if swallowed. Skin: May cause skin irritation in susceptible persons. Eyes: May cause eye irritation with susceptible persons. **Component B, D and G:** Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. Ingestion: May be harmful if swallowed. Skin: May be harmful if absorbed through skin. May cause skin irritation.

	Eyes: May cause eye irritation **Component C:** Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed. Skin: May be harmful if absorbed through skin. Causes skin burns. Eyes: 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:** *Inhalation:* May be harmful if inhaled. Causes respiratory tract irritation. Ingestion Harmful if swallowed. *Skin:* Harmful if absorbed through skin. Causes skin irritation. Eyes: Risk of serious damage to eyes. **Component F: DMSO** *For **DMSO*** Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation. Aggravated Medical Condition Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.
Carcinogenicity:	N/A
OSHA Permissible Exposure Limit(PEL) Data	No data available
ACGIH Threshold Limit Values (TLV)	No data available

12.Ecological Information

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.
Component F:
For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5
Toxicity
Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h
LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia pulex (Water flea) - 27,500 mg/l
Toxicity to algae EC50 - Lepomis macrochirus (Bluegill) - > 400,000 mg/l - 96 h

Component G: No data available

13. Disposal Considerations

Component A: Dispose of in accordance with local regulations.
Component B, D and G: 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.
Component F: For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer
surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

14. Transport Information: IATA Exempted quantities labeling

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

15. Regulatory information	
California Proposition 65:	**N/A**
US TSCA (Toxic Substance Control Act):	Component **A**: Not listed Component **B**: Listed Component **C**: Listed Component **D**: Listed Component **E**: Listed Component **F:** Listed Component **G**:Listed
US CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act:	Component **A :** Not listed Component **B :** Not listed Component **C :** Listed Component **D** : Not listed Component **E**: Not listed Component **F:** 261.33 8(d). Component **G**: Not listed
US SARA Title III	**Component A** SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A **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 **Component F:** SARA 302 components: N/A

	SARA 313 components: N/A SARA 311/312 Hazards: Fire Hazard, Chronic Health Hazard **Component G:** SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A
US Clean Air Act: *US Clean Water Act:*	Component **A, B, C, D, E, F, and G** *Listed under Hazardous Air Pollutants: Not listed* *Listed under Class 1 Ozone Depletors: Not listed* *Listed under Class 2 Ozone Depletors: Not listed* Components **A, B, C, D, E, F, and G** Listed under "Hazardous Substances": Not listed *Listed under "Priority Pollutants": Not listed* Listed under "Toxic Pollutants": Not listed

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

Component A:	Component B:	Component C:	Component D:	Component E:	Component F	Component G
NA	Pennsylvania Revision Date: NA	Pennsylvania	Pennsylvania Revision Date :NA	Pennsylvania Revision Date: NA	Pennsylvania Revision Date 2007-03-01	Pennsylvania Revision Date: NA
NA	New Jersey Revision Date: NA	New Jersey	New Jersey Revision Date: NA	New Jersey Revision Date: NA	New Jersey Revision Date 2007-03-01	New Jersey Revision Date: NA
NA	NA	Massachusetts Revision Date 2007-03-01	NA	NA	*N/A*	NA

European/International Regulations:

	Component A	Component B	Component C	Component D	Component E	Component F	Component G
EC EINICS	N/A	N/A	215-185-5	N/A	N/A	200-664-3	N/A
EC Risk statements	N/A	N/A	35	N/A	N/A	36/37/38	N/A
WGK	1	1	1	1	1	1	1
Canada-DSL/NDSL	Not Listed	Not listed	Listed	Not listed	Listed	Listed	Not listed

Canada-WHMIS classification	N/A	N/A	E	N/A	D2B	D2B	N/A
Canada-Canadian Ingredient Disclosure List	N/A	Listed	Listed	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.