

Safety Data Sheet (SDS)

<i>Revision Number: 1.2</i>	<i>Last updated: April 2015</i>
1. Product and Company Identification	
<i>Product Name:</i>	SensoLyte[®] MFP Protein Phosphatase Assay Kit *Fluorimetric*
<i>Manufacturer/Supplier:</i>	AnaSpec, Inc. www.anaspec.com 34801 Campus Drive Fremont, CA 94555 Tel: 510-791-9560 Fax: 510-791-9572 Email: service@anaspec.com
<i>Catalog Number</i>	AS-71104
<i>Unit Size</i>	1 kit
2. Hazards Identification	
<i>Emergency Overview:</i>	
<i>GHS Hazard Classification:</i>	
<i>GHS Physical Hazards</i>	
<p>Component A: Flammable liquid (Category 4)</p> <p>Component B and C: Skin irritation (Category 2), Eye irritation (Category 2A), Specific target organ toxicity - single exposure (Category 3), Acute toxicity, Oral (Category 5), Acute aquatic toxicity (Category 3)</p> <p>Component D: Acute toxicity, Oral (Category 4), Skin irritation (Category 3), Serious eye damage (Category 1), Acute aquatic toxicity (Category 2), Chronic aquatic toxicity (Category 2)</p> <p>Component E: Skin corrosion (Category 1A), Serious eye damage (Category 1), Acute aquatic toxicity (Category 3)</p> <p>Component F: Acute toxicity, Oral (Category 4), Skin irritation (Category 2), Eye irritation (Category 2A), Specific target organ toxicity - single exposure (Category 3)</p>	
<i>GHS Health and Environmental Hazards</i>	
<p>Component A: Irritant to eyes and skin</p> <p>Component B and C: Irritant to eyes, skin and respiratory system.</p> <p>Component D: Irritant to eyes, skin and respiratory system. Cause eye damage</p> <p>Component E: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if absorbed through skin. Causes skin burns. Causes severe eye burns. May be harmful if swallowed.</p> <p>Component F: Irritant to eyes, skin and respiratory system. Harmful if swallow.</p>	
<i>GHS Signal Words:</i>	
<p>Component A, C and F: Warning</p> <p>Component B, D and E: Danger</p>	

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GHS Hazard Statements:

Component A: H227 Combustible liquid

Component B: H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H302 Harmful if swallowed. H318 Causes serious eye damage. H401 Toxic to aquatic life.

Component C: H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H303 May be harmful if swallowed. H402 Harmful to aquatic life.

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

Component E: H314 Causes severe skin burns and eye damage. H402 Harmful to aquatic life.

Component F: H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.

GHS Precautionary Statements:

Component A: None

Component B: P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P280 Wear protective gloves/ eye protection/ face protection.

Component C: P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P264 Wash skin thoroughly after handling. P273 Avoid release to the environment. P280 Wear protective gloves/ eye protection/ face protection. P312 Call a POISON CENTER or doctor/ physician if you feel unwell. P337 + P313 If eye irritation persists: Get medical advice/ attention. P501 Dispose of contents/ container to an approved waste disposal plant.

Component D: 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 E: 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 F: P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. 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:	Component F:
<i>Health hazard: 0</i>	<i>Health hazard: 2</i>	<i>Health hazard: 1</i>	<i>Health hazard: 2</i>	<i>Health hazard: 3</i>	<i>Health hazard: 2</i>
<i>Flammability: 2</i>	<i>Flammability: 0</i>	<i>Flammability: 0</i>	<i>Flammability: 1</i>	<i>Flammability: 0</i>	<i>Flammability: 1</i>
<i>Physical hazards: 0</i>	<i>Physical hazards: 0</i>	<i>Physical hazards: 0</i>	<i>Physical hazards: 0</i>	<i>Physical hazards: 1</i>	<i>Physical hazards: 0</i>

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NFPA Rating:

Component A:	Component B:	Component C:	Component D:	Component E:	Component F:
<i>Health hazard: 0</i>	<i>Health hazard: 2</i>	<i>Health hazard: 1</i>	<i>Health hazard: 2</i>	<i>Health hazard:3</i>	<i>Health hazard: 2</i>
<i>Fire: 2</i>	<i>Fire: 0</i>	<i>Fire: 0</i>	<i>Fire: 1</i>	<i>Fire: 0</i>	<i>Fire: 1</i>
<i>Reactivity hazard: 0</i>	<i>Reactivity hazard: 0</i>	<i>Reactivity hazard: 0</i>	<i>Reactivity hazard: 0</i>	<i>Reactivity hazard: 1</i>	<i>Reactivity hazard: 0</i>

3. Composition / Information on Ingredients**Ingredients/Components:**

<i>Chemical Name:</i>	<i>Description</i>	<i>CAS Number:</i>
Component A	Contains DMSO	67-68-5
Component B	Proprietary	N/A
Component C	Proprietary	N/A
Component D	Contains Triton X-100	9002-93-1
Component E	Contains sodium hydroxide	1310-73-2
Component F	Contains DTT	16096-97-2

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 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 B

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

Component C

Inhalation: If breathed in, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

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

Component D

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

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

Component E

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

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

Component F

Inhalation: If breathed in, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Ingestion: 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: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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5. Fire Fighting Measures	
<i>Extinguishing media:</i>	<p>Component A: For small fires, use dry chemical, or carbon dioxide. For large fires, use water spray from a safe distance.</p> <p>Component B, C, D, F: Use water spray, dry chemical or carbon dioxide.</p> <p>Component E: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.</p>
<i>Special firefighting procedures:</i>	<p>Component A: Fire fighters should wear positive pressure self-contained breathing apparatus and full turnout gear.</p> <p>Component B, C, D, E, F: Wear self-contained breathing apparatus for firefighting if necessary.</p>
<i>Unusual fire and explosions hazards:</i>	<p>Component A: 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.</p> <p>Component B: Carbon oxides, nitrogen oxides (NO_x) formed under fire conditions.</p> <p>Component D: Carbon oxides formed under fire conditions.</p> <p>Component C: Carbon oxides, nitrogen oxides (NO_x), hydrogen chloride gas, sodium oxides formed under fire conditions.</p> <p>Component E: Sodium oxides formed under fire conditions.</p> <p>Component F: Carbon oxides, Sulphur oxides formed under fire conditions.</p>
6. Accidental Release Measures	
<i>Containment and spill response</i>	<p>Component A: 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.</p> <p>Component B, C, D, E, F: Keep in suitable, closed containers for disposal.</p>
<i>PPE</i>	Use personal protective equipment
7. Handling and Storage	
<p>Component A: <i>Handling:</i> 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.</p>	

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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 B, C, E, F:

Avoid contact with skin and eyes. Provide appropriate exhaust ventilation. Normal measures for preventive fire protection. Keep container tightly closed in a dry and well-ventilated place.

Component D:

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: Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.</p> <p>Component B, E: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls.</p> <p>Component C: Not applicable</p> <p>Component D: 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.</p> <p>Component F: Not applicable</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>	Liquid
<i>Odor</i>	Not determined
<i>Solubility in Water</i>	Soluble
<i>Specific Gravity</i>	Not determined
<i>pH</i>	Component B 6.5 Component C 7.5 Component D: 9.7 Component E: 14 Component F: 4 - 6 at 15.4 g/l at 25 °C
<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

10. Stability and Reactivity

<i>Thermal Decomposition</i>	Not applicable
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<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: PV6210000 Component B and C: N/A Component D: MD0907700 Component E: WB4900000 Component F: EK1610000
<i>Toxicity</i>	Component A contains <i>DMSO</i> <i>For DMSO</i> 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 B and C: No data available Component D: Acute toxicity Oral LD50 LD50 Oral - rat - 1,800 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 E: Acute toxicity Oral LD50 no data available Inhalation LC50 no data available Dermal LD50 no data available Other information on acute toxicity no data available Component F: LD50 Oral-rat-400 mg/kg
<i>Health Hazards</i>	No data available
<i>Potential Hazards</i>	Potential Health Effects Component A: Aggravated Medical Condition: Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body. Component B, C, D:

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	<p><i>Inhalation:</i> May be harmful if inhaled. Causes respiratory tract irritation. <i>Ingestion:</i> May be harmful if swallowed. <i>Skin:</i> May be harmful if absorbed through skin. Causes skin irritation. <i>Eyes:</i> Causes eye irritation.</p> <p>Component E: <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.</p> <p>Component F: <i>Inhalation:</i> May be harmful if inhaled. Causes respiratory tract irritation. <i>Ingestion:</i> Toxic if swallowed. <i>Skin:</i> May be harmful if absorbed through skin. Causes skin irritation. <i>Eyes:</i> Causes eye irritation.</p>
<i>Carcinogenicity:</i>	No data available
<i>OSHA Permissible Exposure Limit(PEL) Data</i>	Component A, B, C, D and F: No data available Component E: 2mg/m ³
<i>ACGIH Threshold Limit Values (TLV)</i>	Component A, B, C, D and F: No data available Component E: 2mg/m ³
<u>12. Ecological Information</u>	
<p>Component A contains DMSO For DMSO, CAS-No. 67-68-5</p> <p>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</p> <p>Component B and C: No data available</p> <p>Component D: Toxicity no data available Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia - 26 mg/l - 48 h</p> <p>Persistence and degradability Biodegradability Biotic/Aerobic Biochemical oxygen demand Result: 36 % - Not readily biodegradable. Method: Closed Bottle test</p> <p>Other adverse effects Chemical Oxygen Demand (COD) 2.19 mg/g</p> <p>An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.</p> <p>Component E: Toxicity Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates Immobilization EC50 - Daphnia - 40.38 mg/l - 48 h</p> <p>Component F: Do not allow product to reach ground water.</p>	

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13. Disposal Considerations**Components A:**

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.

Component B, C, D

Offer surplus and non-recyclable solutions to a licensed disposal company.

Component E, F

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.

14. Transport Information:

<i>UN Number</i>	3316
<i>Hazard Class</i>	9
<i>Packing Group</i>	III
<i>Proper Shipping Name (DOT)</i>	Chemical kit

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15. Regulatory information					
<i>California Proposition 65:</i>			N/A		
<i>US TSCA (Toxic Substance Control Act)</i>			Component A, D, E and F: Listed Component B and C: N/A		
<i>US CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)</i>			Component A: 261.33 8(d). Component B, C,D and F: N/A Component E: 1000 lb final RQ; 454 kg final RQ		
<i>US SARA Title III</i>			Component A SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: Fire Hazard, Chronic Health Hazard Component B, C and F SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A Component D and E SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: Acute Health hazard		
<i>US Clean Air Act</i>			All components <i>Listed under "Hazardous Substances": Not listed</i> <i>Listed under "Priority Pollutants": Not listed</i> <i>Listed under "Toxic Pollutants": Not listed</i>		
<i>US Clean Water Act</i>			Component A, B, C, D, F <i>Listed under "Hazardous Substances": Not listed</i> <i>Listed under "Priority Pollutants": Not listed</i> <i>Listed under "Toxic Pollutants": Not listed</i> Component E <i>Listed under "Hazardous Substances": Listed</i> <i>Listed under "Priority Pollutants": Not listed</i> <i>Listed under "Toxic Pollutants": Not listed</i>		
US States: Right-to-Know: Listed in the following States:					
Component A:	Component B:	Component C:	Component D:	Component E:	Component F:
Pennsylvania Revision Date 2007-03-01 67-68-5	Pennsylvania Revision Date N/A 6976-37-0	Pennsylvania Revision Date N/A 7647-14-5	Pennsylvania Revision Date N/A 9002-93-1	Pennsylvania Revision Date 2007/03/01 1310-73-2	Pennsylvania Revision Date N/A 3483-12-3
New Jersey Revision Date 2007-03-01 67-68-5	New Jersey Revision Date N/A 6976-37-0	New Jersey Revision Date N/A 7647-14-5	New Jersey Revision Date N/A 9002-93-1	New Jersey Revision Date 2007/03/01 1310-73-2	New Jersey Revision Date N/A 3483-12-3
Massachusetts N/A	Massachusetts N/A	Massachusetts N/A	Massachusetts N/A	Massachusetts Revision Date 2007/03/01 1310-73-2	Massachusetts N/A

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European/International Regulations:						
	Component A:	Component B:	Component C:	Component D:	Component E:	Component F:
<i>EC EINICS</i>	200-664-3	230-237-7	231-598-3	255-695-5	231-659-4	222-468-7
<i>EC Risk statements</i>	36/37/38	36/37/38-21/22-20/21/22	36-36/37/38-22	41-36/38-22-51/53-36-36/37/38-37/38	36/38-35-34	25-36/37/38
<i>WGK</i>	1	3	1	3	1	3
<i>Canada-DSL/NDSL</i>	Listed	Listed	Listed	Listed	Listed	Listed
<i>Canada-WHMIS classification</i>	D2B	N/A	N/A	D2B	D2B	D2B, D1B
<i>Canada-Canadian Ingredient Disclosure List</i>	Listed	N/A	N/A	Listed	Listed	N/A

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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