

# Safety Data Sheet (SDS)

<i>Revision Number: 1.1</i>	<i>Last updated: April 2015</i>
<b><u>1. Product and Company Identification</u></b>	
<i>Product Name:</i>	<b>SensoLyte<sup>®</sup> AMC Caspase Substrate Sampler Kit * Fluorimetric*</b>
<i>Manufacturer/Supplier:</i>	AnaSpec, Inc. <a href="http://www.anaspec.com">www.anaspec.com</a> 34801 Campus Drive Fremont, CA 94555 Tel: 510-791-9560 Fax: 510-791-9572 Email: <a href="mailto:service@anaspec.com">service@anaspec.com</a>
<i>Catalog Number</i>	AS-71121
<i>Unit Size</i>	1 kit
<b><u>2. Hazards Identification</u></b>	
<i>Emergency Overview:</i>	
<i>GHS Hazard Classification:</i>	
<i>GHS Physical Hazards</i>	
<ul style="list-style-type: none"> <li>Component A: Flammable liquid (Category 4)</li> <li>Component B: Flammable liquid (Category 4)</li> <li>Component C: Not Applicable</li> <li>Component D: Not Applicable</li> <li>Component E: Not Applicable</li> </ul>	
<i>GHS Health and Environmental Hazards</i>	
<ul style="list-style-type: none"> <li>Component A: Irritant to eyes and skin</li> <li>Component B: Irritant to eyes and skin</li> <li>Component C: Irritant to eyes and skin</li> <li>Component D: Irritants to eyes and skin</li> <li>Component E: Irritants to eyes and skin</li> </ul>	
<i>GHS Signal Words:</i>	
<ul style="list-style-type: none"> <li>Component A: Warning</li> <li>Component B: Warning</li> <li>Component C: Danger</li> <li>Component D: Warning</li> <li>Component E: Danger</li> </ul>	
<i>GHS Hazard Statements:</i>	
<ul style="list-style-type: none"> <li>Component A: H227 Combustible liquid</li> <li>Component B: H227 Combustible liquid</li> <li>Component C: H302 Harmful if swallowed.</li> <li>H314 Causes severe skin burns and eye damage.</li> </ul>	

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H410 Very toxic to aquatic life with long lasting effects.

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

Component E: H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H410 Very toxic to aquatic life with long lasting effects.

*GHS Precautionary Statements:*

Component A: - None

Component B: - None

Component C: - None

Component D: -P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin 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 gloves/ eye protection/ face protection.  
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant

Component E: None

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**HMIS Classification:**

<b>Component A:</b>	<b>Component B:</b>	<b>Component C:</b>	<b>Component D:</b>	<b>Component E:</b>
Health hazard: 0	Health hazard: 0	Health hazard: 0	Health hazard: 2	Health hazard: 0
Flammability: 2	Flammability: 2	Flammability: 0	Flammability: 1	Flammability: 0
Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	Physical hazards: 1	Physical hazards: 0

**NFPA Rating:**

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

**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	Contains DMSO	67-68-5
Component C	Proprietary	NA
Component D	Contains DL-Dithiothreitol	3483-12-3
Component E	Proprietary	N/A

**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 and 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:** Flush eyes with water as a precaution.

**Component C**

**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:** 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 D**

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

**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.

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**Component E**

*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:* 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.

**5. Fire Fighting Measures***Extinguishing media:*

**Component A and B:** For small fires, use alcohol resistant foam, dry chemical, or carbon dioxide. For large fires, use water spray from a safe distance.

**Component C:** Not Applicable

**Component D:** For small fires, use dry chemical powder. For larger fires, use water spray, fog, or foam.

**Component E:** Not applicable

*Special firefighting procedures:*

**Component A and B:** Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

**Component C:** Not Applicable

**Component D:** Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

**Component E:** Not applicable

*Unusual fire and explosions hazards:*

**Component A and B:** 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.

**Component C:** Not Applicable

**Component D:** Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides, Hydrogen sulfide gas

**Component E:** Not applicable

**6. Accidental Release Measures***Containment and spill response*

**Component A and B:** Immediately contact emergency personnel. Prevent further leakage or spillage if safe to do so. Avoid breathing

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	<p>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><b>Component C and E:</b> Not Applicable</p> <p><b>Component D:</b> Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Do not let product enter drains. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.</p>
<i>PPE</i>	Use personal protective equipment

## **7. Handling and Storage**

### **Component A and B :**

*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 C and E:** Not Applicable

### **Component D:**

*Handling:* Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

*Storage:* Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: 2 - 8 °C. Keep in a dry place.

## **8. Exposure Controls / Personal Protection**

<i>Engineering controls</i>	<p><b>Component A and B:</b> Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.</p> <p><b>Component C and E:</b> Not Applicable</p> <p><b>Component D:</b> Contains no substances with occupational exposure limit values.</p>
<i>PPE</i>	<p><b>Component A and B:</b></p> <p><i>Respiratory System:</i> 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.</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</p>

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	<p>used to remove potentially contaminated gloves.  <i>Eyes:</i> Wear chemical splash goggles.  <b>Component C and E:</b>Not Applicable</p> <p><b>Component D:</b>  <i>Respiratory protection</i>  For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher-level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).  <i>Hand protection</i>  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.  <i>Skin and body protection</i>  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.  <i>Eye protection</i>  Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  <i>Hygiene measures</i>  Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.</p>
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## **9. Physical and Chemical Properties**

<i>Physical State</i>	Liquid
<i>Odo</i>	Not determined
<i>Solubility in Water</i>	Soluble
<i>Specific Gravity</i>	Not determined
<i>pH</i>	Component C-7.5 Component D - 4-6 Component E -7.5
<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
<b><u>11. Toxicological Information</u></b>	
<i>RTECS Number</i>	Component A: PV6210000 Component B: PV6210000 Component C: N/A Component D: EK1610000 Component E: N/A
<i>Toxicity</i>	Component A and B contain DMSO. <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  <i>For Component D</i> Oral LD50 LD50 Oral - rat - 400 mg/kg
<i>Health Hazards</i>	<i>No data available</i>
<i>Potential Hazards</i>	<b>Potential Health Effects</b> <i>Component A,B, and D</i> <b>Inhalation</b> May be fatal if inhaled. May cause respiratory tract irritation. <b>Skin</b> May cause skin irritation. May be fatal if absorbed through skin. <b>Eyes</b> May cause eye irritation. <b>Ingestion</b> May be fatal if swallowed. <b>Target Organs</b> Kidney, Nerves.
<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
<b><u>12. Ecological Information</u></b>	

For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5 (Component **A** and **B** contain DMSO)

**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

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

For DL-Dithiothreitol, CAS-No 3483-12-3 (Component **D**)

Toxicity to daphnia and other aquatic invertebrates

LC50 - Daphnia magna (Water flea) - 27 mg/l - 48 h

**13. Disposal Considerations**

For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5 (Component **A** and **B** contain DMSO)

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.

For DL-Dithiothreitol, CAS-No 3483-12-3 (Component **D**)

**Product**

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: IATA Exempted quantities labeling**

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

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<b>US States: Right-to-Know: Listed in the following States:</b>					
Component A:	Component B:	Component C:	Component D:	Component E:	
Pennsylvania Revision Date 2007-03-01	Pennsylvania Revision Date 2007-03-01	N/A	Pennsylvania	N/A	
New Jersey Revision Date 2007-03-01	New Jersey Revision Date 2007-03-01	N/A	New Jersey	N/A	
N/A	N/A	N/A	Massachusetts	N/A	
<b>European/International Regulations:</b>					
	Component A	Component B	Component C	Component D	Component E
EC EINICS	200-664-3	200-664-3	N/A	N/A	N/A
EC Risk statements	36/37/38	36/37/38	N/A	N/A	N/A
WGK	1	1	N/A	N/A	N/A
Canada- DSL/NDSL	Listed	Listed	Not listed	Not listed	Not Listed
Canada- WHMIS classification	D2B	D2B	N/A	N/A	N/A
Canada- Canadian Ingredient Disclosure List	Listed	Listed	Not Listed	Not Listed	Not Listed
<b>16. Other Information</b>					
<p>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.</p>					

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