

# Material Safety Data Sheet (MSDS)

Revision Number: 1.0	Last updated: June 2013
----------------------	-------------------------

## 1. Product and Company Identification

Product Name:	SensoLyte® GST Activity Assay Kit *Fluorimetric*
Manufacturer/Supplier:	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>
Catalog Number	72157
Unit Size	1 kit

## 2. Hazards Identification

### Emergency Overview:

### GHS Hazard Classification:

### GHS Physical Hazards

- Component A: Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Specific target organ toxicity – single exposure (Category 3)
- Component B: Not Applicable.
- Component C: Not Applicable.
- Component D: Acute toxicity, Oral (Category 5)
- Component E: Flammable liquid (Category 4)

### GHS Health and Environmental Hazards

- Component A: Irritant to eyes and skin, target organ effect
- Component B: Not applicable
- Component C: Irritant to eyes and skin
- Component D: Acute toxicity oral
- Component E: Irritant to eyes and skin

### GHS Signal Words:

- Component A: Warning
- Component B: N/A
- Component C: Warning
- Component D: Warning
- Component E: Warning

### AnaSpec Inc.

34801 Campus Drive, Fremont, CA 94555

Toll-Free: 800-452-5530 • Tel: 510-791-9560 • Fax: 510-791-9573

**GHS Hazard Statements:**

- Component A: H315 Causes skin irritation, H319 Causes serious eye irritation, H335 May cause respiratory irritation
- Component B: H303 May be harmful if swallowed, H335 May cause respiratory irritation, H313 May be harmful if contact with skin
- Component C: H302 Harmful if swallowed
- Component D: H303 May be harmful if swallowed
- Component E: H227 Combustible liquid

**GHS Precautionary Statements:**

- Component A: 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.
- Component B: - None
- Component C: - None
- Component D: - None
- Component E: - None

**HMIS Classification:**

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

**NFPA Rating:**

Component A:	Component B:	Component C:	Component D:	Component E:
Health hazard: 2	Health hazard: 0	Health hazard: 0	Health hazard: 0	Health hazard: 0
Fire: 0	Fire: 0	Fire: 0	Fire: 0	Fire: 2
Reactivity hazard: 0	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	Monochlorobimane	76421-73-3
Component B	Contains GST	50812-37-8
Component C	Proprietary	NA
Component D	Contains glutathione	70-18-8
Component E	DMSO	67-68-5

**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.

**AnaSpec Inc.**

34801 Campus Drive, Fremont, CA 94555

Toll-Free: 800-452-5530 • Tel: 510-791-9560 • Fax: 510-791-9573

*Skin:* Wash off with soap and plenty of water. Consult a physician.  
*Eyes:* Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.

**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.  
*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:* 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.  
*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.

**5. Fire Fighting Measures**

<i>Extinguishing media:</i>	<p><b>Component A, B, D:</b> Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.</p> <p><b>Component C:</b> Not Applicable</p> <p><b>Component E:</b> For small fires, use alcohol resistant foam, dry chemical or carbon dioxide. For large fires, use water spray from a safe distance.</p>
<i>Special firefighting procedures:</i>	<p><b>Component A, B, D:</b> Wear self-contained breathing apparatus (SCBA) if necessary.</p> <p><b>Component C:</b> Not applicable</p> <p><b>Component E:</b> Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.</p>
<i>Unusual fire and explosions hazards:</i>	<p><b>Component A:</b> Hazardous decomposition products formed under fire conditions – carbon oxides and nitrogen oxides.</p> <p><b>Component B:</b> Hazardous decomposition products formed under fire conditions - carbon oxides.</p> <p><b>Component C:</b> Not applicable</p> <p><b>Component D:</b> Hazardous decomposition products formed under fire conditions – carbon oxides, nitrogen oxides, sulfur oxides.</p> <p><b>Component E:</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.</p>

#### **6. Accidental Release Measures**

<i>Containment and spill response</i>	<p><b>Component A:</b> Keep in suitable, closed container for disposal.</p> <p><b>Component B, D:</b> Do not let material enter drains. Keep in suitable, closed container for disposal.</p> <p><b>Component C:</b> Not applicable</p> <p><b>Component E:</b> 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>
<i>PPE</i>	Use personal protective equipment

#### **7. Handling and Storage**

##### **Component A:**

*Handling:* Avoid contact with skin and eyes. Avoid formation of dusts and aerosols.

*Storage:* Keep container tightly closed in a dry and well-ventilated place. Light sensitive.

##### **Component B:**

*Handling:* Avoid contact with skin and eyes.

*Storage:* Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20C.

##### **Component C:**

Not applicable

**Component D:**

*Handling:* Avoid contact with skin and eyes.

*Storage:* Keep container tightly closed in a well-ventilated place

**Component E:**

*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.

**8. Exposure Controls / Personal Protection**

<i>Engineering controls</i>	<p><b>Component A, B, C, D:</b> Not applicable.</p> <p><b>Component E:</b> Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.</p>
<i>PPE</i>	<p><b>Components A:</b> For nuisance exposures, use type P95 (US) or type P1 (EU EN 143) particle respirator.</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> Handle with gloves. Appropriate techniques should be used to remove potentially contaminated gloves.</p> <p><i>Eyes:</i> Wear chemical splash goggles (EN166)</p> <p><b>Component B:</b></p> <p><i>Respiratory System:</i> Respiratory protection is not required.</p> <p><i>Hands:</i> Handle with gloves. Use proper glove removal technique to avoid skin contact.</p> <p><b>Component C, D:</b></p> <p><i>Skin and Body:</i> Wear appropriate work uniform or laboratory coat to prevent skin exposure.</p> <p><i>Hands:</i> Handle with gloves. Appropriate techniques should be used to remove potentially contaminated gloves.</p> <p><i>Eyes:</i> Wear safety glasses</p> <p><b>Component E:</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</p>

**AnaSpec Inc.**

34801 Campus Drive, Fremont, CA 94555

Toll-Free: 800-452-5530 • Tel: 510-791-9560 • Fax: 510-791-9573

	techniques should be used to remove potentially contaminated gloves. <i>Eyes:</i> Wear chemical splash goggles.
<b><u>9. Physical and Chemical Properties</u></b>	
<i>Physical State</i>	Component A – solid Component B, C, D, E - liquid
<i>Odor</i>	Not determined
<i>Solubility in Water</i>	Not determined
<i>Specific Gravity</i>	Not determined
<i>pH</i>	Component C - 7
<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
<b><u>10. Stability and Reactivity</u></b>	
<i>Thermal Decomposition</i>	Not applicable
<i>Dangerous Products of Decomposition</i>	<b>Component A:</b> Carbon oxides, nitrogen oxides. <b>Component B:</b> Hazardous decomposition products formed under fire conditions – carbon oxides. <b>Component C:</b> Not applicable <b>Component D:</b> Carbon oxides, nitrogen oxides, sulfur oxides.
<i>Dangerous Reactions</i>	Not applicable
<b><u>11. Toxicological Information</u></b>	
<i>RTECS Number</i>	Component A: N/A Component B: N/A Component C: N/A Component D: MC0556000 Component E: PV6210000
<i>Toxicity</i>	<i>Component E contains 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
<i>Health Hazards</i>	<i>No data available</i>
<i>Potential Hazards</i>	<b>Potential Health Effects</b> Component A:

	<i>Inhalation:</i> May be harmful if inhaled. Causes respiratory tract irritation. <i>Ingestion:</i> Harmful if swallowed. <i>Skin:</i> May be harmful if absorbed through skin. Cause skin irritation. <i>Eyes:</i> Causes eye irritation. Component B: <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. 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.
<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>	
<i>For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5 (Component E contains DMSO)</i> <b>Toxicity</b> 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  <i>Components A, B, C and D</i> <b>Persistence and degradability</b> No data available <b>Bioaccumulative potential</b> No data available <b>Mobility in soil</b> No data available <b>PBT and vPvB assessment</b> No data available <b>Other adverse effects</b> No data available	
<b><u>13. Disposal Considerations</u></b>	
<i>For Components A, B, C, D</i> Offer surplus and non-recyclable solutions to a licensed disposal company. <b>Contaminated packaging</b> Dispose of as unused product.  <b>Component E:</b> 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.	
<b><u>14. Transport Information: IATA Exempted quantities labeling</u></b>	
<i>UN Number</i>	N/A
<i>Hazard Class</i>	N/A
<i>Identification Number</i>	N/A
<i>Packing Group</i>	N/A

**AnaSpec Inc.**

34801 Campus Drive, Fremont, CA 94555

Toll-Free: 800-452-5530 • Tel: 510-791-9560 • Fax: 510-791-9573

<i>Proper Shipping Name (DOT)</i>	N/A
-----------------------------------	-----



<b><u>15. Regulatory information</u></b>	
California Proposition 65:	N/A
US TSCA (Toxic Substance Control Act):	Component <b>A</b> : Not Listed Component <b>B</b> : Not Listed Component <b>C</b> : Not Listed Component <b>D</b> : Not Listed Component <b>E</b> : Listed
US CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):	Component <b>A</b> : Not Listed Component <b>B</b> : Not Listed Component <b>C</b> : Not Listed Component <b>D</b> : Not listed Component <b>E</b> : 261.33 8(d).
US SARA Title III	Component <b>A</b> SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: Acute Health Hazard Component <b>B</b> SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: No SARA Hazards Component <b>C</b> SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A Component <b>D</b> SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: N/A Component <b>E</b> SARA 302 components: N/A SARA 313 components: N/A SARA 311/312 Hazards: Fire Hazard, Chronic Health Hazard
US Clean Air Act:	Component <b>A, B, C, D, E</b> <i>Listed under Hazardous Air Pollutants: Not listed</i> <i>Listed under Class 1 Ozone Depletors: Not listed</i> <i>Listed under Class 2 Ozone Depletors: Not listed</i>
US Clean Water Act:	Components <b>A, B, C, D, E</b> <i>Listed under "Hazardous Substances": Not listed</i> <i>Listed under "Priority Pollutants": Not listed</i> <i>Listed under "Toxic Pollutants": Not listed</i>

**AnaSpec Inc.**

34801 Campus Drive, Fremont, CA 94555

Toll-Free: 800-452-5530 • Tel: 510-791-9560 • Fax: 510-791-9573

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

Component A:	Component B:	Component C:	Component D:	Component E:
Pennsylvania Revision Date CAS# 76421-73-3	Pennsylvania Revision Date CAS# 50812-37-8	Pennsylvania Revision Date N/A	Pennsylvania Revision Date CAS# 70-18-8	Pennsylvania Revision Date 2007-03-01 67-68-5
New Jersey Revision Date CAS# 76421-73-3	New Jersey Revision Date CAS# 50812-37-8	New Jersey Revision Date N/A	New Jersey Revision Date CAS# 70-18-8	New Jersey Revision Date 2007-03-01 67-68-5
Massachusetts N/A	Massachusetts N/A	Massachusetts Revision Date N/A	Massachusetts Revision Date CAS# 70-18-8	Massachusetts N/A

***European/International Regulations:***

	Component A:	Component B:	Component C:	Component D:	Component E:
EC EINICS	Not identified	Not identified	N/A	N/A	200-664-3
EC Risk statements	36/37/38	Not determined	N/A	36/37/38	36/37/38
WGK	1	Not determined	N/A	1	1
Canada-DSL/NDL	Not Listed	Not determined	N/A	Listed	Listed
Canada-WHMS classification	N/A	N/A	N/A	Non-controlled	D2B
Canada-Canadian Ingredient Disclosure List	Not Listed	Not determined	Not Listed	Not determined	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.

**AnaSpec Inc.**

34801 Campus Drive, Fremont, CA 94555

Toll-Free: 800-452-5530 • Tel: 510-791-9560 • Fax: 510-791-9573