

# 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® MUG <math>\beta</math> -galactosidase Assay Kit*<i>Fluorimetric*</i></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-72132
<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>	
	<b>Component A and B:</b> Flammable liquid (Category 4)
	<b>Component C and D:</b> Skin irritation Eye irritation
	<b>Component E:</b> Acute toxicity, Oral (Category 5) Skin irritation (Category 2) Eye irritation (Category 2A) Specific target organ toxicity - single exposure (Category 3)
	<b>Component F and G:</b> Not flammable or combustible.
<i>GHS Health and Environmental Hazards</i>	
	<b>Component A and B:</b> Irritant to eyes and skin
	<b>Component C and D:</b> H316 Causes mild skin irritation H320 Causes mild eye irritation
	<b>Component E:</b> Target organ effect, toxic by ingestion, irritant
	<b>Component F:</b> Irritant to eyes and skin, Acute toxicity, oral
	<b>Component G:</b> Irritant to eyes
<i>GHS Signal Words:</i>	
	<b>Component A,B ,C,D and E:</b> Warning
	<b>Component F:</b> Danger
<i>GHS Hazard Statements:</i>	
	<b>Component A and B:</b> H227 Combustible liquid
	<b>Component C and D:</b> None

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**Component E:** H303 May be harmful if swallowed, H315 Causes skin irritation, H319 Causes serious eye irritation

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

**Component G:** None

*GHS Precautionary Statements:*

**Component A and B:** None

**Component C and D:** P280 Wear Eye Protection

**Component E:** 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. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. 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. Remove contact lenses, if present and easy to do. Continue rinsing.

**Component F:** 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 G:** None

*HMIS Classification:*

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

*NFPA Rating:*

<b>Component A and B:</b>	<b>Component C and D:</b>	<b>Component E:</b>	<b>Component F:</b>	<b>Component G:</b>
<i>Health hazard: 0</i>	<i>Health hazard: 1</i>	<i>Health hazard: 2</i>	<i>Health hazard: 2</i>	<i>Health hazard: 0</i>
<i>Fire: 2</i>	<i>Flammability: 0</i>	<i>Fire: 1</i>	<i>Fire: 1</i>	<i>Fire: 0</i>
<i>Reactivity hazard: 0</i>	<i>Physical hazards: 0</i>	<i>Reactivity hazard: 0</i>	<i>Reactivity hazard: 0</i>	<i>Reactivity hazard: 0</i>

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**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	$\beta$ -Galactosidase enzyme	NA
Component D	Assay Buffer	NA
Component E	DTT	3483-12-3
Component F	Triton-X-100	9002-93-1
Component G	Stop solution	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 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 and 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.

*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. Take victim immediately to hospital. Consult a physician.

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

**Component F**

*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.

**Component G**

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

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<p><i>Ingestion:</i> Never give anything by mouth to an unconscious person. Rinse mouth with water.</p> <p><i>Skin:</i> Wash off with soap and plenty of water.</p> <p><i>Eyes:</i> Flush eyes with water as a precaution.</p>	
<b>5. Fire Fighting Measures</b>	
<i>Extinguishing media:</i>	For small fires, use alcohol resistant foam, dry chemical, or carbon dioxide. For large fires, use water spray from a safe distance.
<i>Special firefighting procedures:</i>	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).
<i>Unusual fire and explosions hazards:</i>	<p><b>Component A and B:</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> <p><b>Component C , D and G:</b> None</p> <p><b>Component E:</b> Hazardous carbon oxides and sulphur oxides formed under fire conditions.</p> <p><b>Component F:</b> Hazardous decomposition products formed under fire conditions - Carbon oxides</p>
<b>6. Accidental Release Measures</b>	
<i>Containment and spill response</i>	<p><b>Component A and B:</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> <p><b>Component C and D:</b> Soak up with inert absorbent material.</p> <p><b>Component E:</b> Keep in suitable, closed container for disposal. Do not let material enter drains.</p> <p><b>Component G:</b> Keep in suitable, closed containers for disposal.</p>
<i>PPE</i>	Use personal protective equipment
<b>7. Handling and Storage</b>	
<p><b>Component A and B</b></p> <p><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> <p><i>Storage:</i> 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.</p> <p><b>Component C</b></p> <p><i>Handling:</i> Avoid contact with skin and eyes.</p> <p><i>Storage:</i> Store at -80C</p> <p><b>Component D:</b></p> <p><i>Handling:</i> Avoid contact with skin and eyes.</p> <p><i>Storage:</i> Store at -20C</p>	

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**Component E:**

*Handling:* Avoid contact with skin and eyes.

*Storage:* Store in a tightly closed container in a dry place at -20C.

**Component F and G:** Keep container tightly closed in a dry and well-ventilated place.

**8. Exposure Controls / Personal Protection**

<i>Engineering controls</i>	Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.
<i>PPE</i>	<p><b>Component A,B ,E, F and G</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 used to remove potentially contaminated gloves.</p> <p><i>Eyes:</i> Wear chemical splash goggles.</p> <p><b>Component C and D:</b> Wear goggles, gloves and lab coat when handling this product.</p>

**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>	<b>Component D</b> -7.3
<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
<i>Dangerous Products of Decomposition</i>	Not Applicable
<i>Dangerous Reactions</i>	Not Applicable

**11.Toxicological Information**

<i>RTECS Number</i>	<p><b>Component E:</b> EK1612000</p> <p><b>Component F:</b> MD0907700</p> <p><b>Other components:</b>NA</p>
<i>Toxicity</i>	<p><b>Component A and Component B contains DMSO.</b></p> <p><i>For DMSO</i></p> <p>Oral LD50</p> <p>LD50 Oral - rat - 14,500 mg/kg</p> <p>Inhalation LC50</p>

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	<p>LC50 Inhalation - rat - 4 h - 40250 ppm  Dermal LD50  LD50 Dermal - rabbit - &gt; 5,000 mg/kg  Component F:  <b>Oral LD50</b>  LD50 Oral - rat - female - 707 mg/kg  LD50 Oral - rat - male - 500 mg/kg  <b>Inhalation LC50</b>  no data available  <b>Dermal LD50</b>  LD50 Dermal - rabbit - 8,000 mg/kg  <b>Other information on acute toxicity</b>  no data available  <b>Other components:</b> NA</p>
<i>Health Hazards</i>	<i>No data available</i>
<i>Potential Hazards</i>	<p><b>Potential Health Effects</b>  <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. May cause skin irritation.  <i>Eyes:</i> Causes eye irritation.</p>
<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

**12. Ecological Information**

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

**Component F****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.

Other components:NA

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<b><u>13. Disposal Considerations</u></b>	
For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5 ( <b>Component A and B</b> ) 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>Contaminated packaging</b> Dispose of as unused product.	
<b>Component F:</b> Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.	
<b>Contaminated packaging</b> Dispose of as unused product.	
<b><u>14. Transport Information:</u> IATA Exempted quantities labeling</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
<i>Proper Shipping Name (DOT)</i>	N/A
<b><u>15. Regulatory information</u></b>	
<i>California Proposition 65:</i>	<b>None</b>
US TSCA (Toxic Substance Control Act):	Component <b>A ,B and F</b> : Listed Component <b>C , D ,E and G</b> : Not Listed
<i>US CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):</i>	Component <b>A and B</b> : 261.33 8(d). Component <b>C ,D ,E , F and G</b> : Not Listed

US SARA Title III	<p><b>Component A and B</b>  SARA 302 components: N/A  SARA 313 components: N/A  SARA 311/312 Hazards: Fire Hazard, Chronic Health Hazard  <b>Component C ,D and G</b>  SARA 302 components: N/A  SARA 313 components: N/A  SARA 311/312 Hazards: NA  <b>Component E and F</b>  SARA 302 components: N/A  SARA 313 components: N/A  SARA 311/312 Hazards: Acute Health Hazard</p>
US Clean Air Act:	<p><b>Component A, B, C, D,E,F and G</b>  <i>Listed under Hazardous Air Pollutants: Not listed</i>  <i>Listed under Class 1 Ozone Depleters: Not listed</i>  <i>Listed under Class 2 Ozone Depleters: Not listed</i></p>
US Clean Water Act:	<p><b>Components A, B, C, D , E,F and G</b>  Listed under "Hazardous Substances": Not listed  <i>Listed under "Priority Pollutants": Not listed</i>  Listed under "Toxic Pollutants": Not listed</p>

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

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

**European/International Regulations:**

	Component A and B	Component C and D	Component E	Component F	Component G
EC EINICS	200-664-3	N/A	240-263-0	N/A	N/A
EC Risk statements	36/37/38	N/A	36/37/38--22	N/A	N/A
WGK	1	N/A	N/A	1	N/A
Canada- DSL/NDSL	Listed	Not listed	Not Listed	Listed	Not listed
Canada- WHMIS classification	D2B	N/A	D1B, D2B	D2B	D2B
Canada- Canadian Ingredient Disclosure List	Listed	Not Listed	Not listed	Listed	Not 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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