Material Safety Data Sheet (MSDS)

Revision Number: 1.0	TVIUVOITUI (SUI	Last updated: April 2013				
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1. Product and Compar						
Product Name:	SensoLyte	Rh110 Cathepsin K Assay Kit *Fluorimetric*				
Manufacturer/Supplier:	AnaSpec, In	c.				
	www.anaspe	www.anaspec.com				
	34801 Camp	ous Drive				
	Fremont, CA					
	Tel: 510-79	1-9560				
	Fax: 510-79					
		ce@anaspec.com				
Catalog Number	72152					
Unit Size	1 kit					
2. Hazards Identification	<u>on</u>					
Emergency Overview:						
GHS Hazard Classificati	ion:					
GHS Physical Hazards	. A E1 11 11					
	mponent A: Flammable li					
	mponent B: Flammable li					
Co	-	7, Oral (Category 5) Acute toxicity, Inhalation (Category 5), (Category 3), Eye irritation (Category 2B)				
Со	-	y, Oral (Category 5) Acute toxicity, Inhalation (Category 5), (Category 3), Eye irritation (Category 2B)				
Co	•	7, Oral (Category 5) Acute toxicity, Inhalation (Category 5), (Category 3), Eye irritation (Category 2B)				
Co	mponent F: Flammable lie					
	mponent G: Acute toxicit					
		n (Category 2)				
		(Category 2A)				
	•	et organ toxicity - single exposure (Category 3)				
GHS Health and Enviror						
Co	mponent A: Irritant to eye	s and skin				
	mponent B: Irritant to eyes					
	-	s, skin and respiratory system. Harmful if swallow.				
		s, skin and respiratory system. Harmful if swallow.				
		s, skin and respiratory system. Harmful if swallow.				
	mponent F: Irritant to eyes					
	mponent G: Target organ	effect, toxic by ingestion, irritant				
GHS Signal Words:						
Co	mponent A: Warning					

Component B: Warning Component C: Warning Component E: Warning Component F: Warning Component G: Warning

GHS Hazard Statements:

Component A: H227 Combustible liquid Component B: H227 Combustible liquid

Component C: H319 Causes serious eye irritation
H335 May cause respiratory irritation
H303 May be harmful if swallowed
H316 Causes mild skin irritation

Component D: H303 May be harmful if swallowed

H315: Causes skin irritation

H335: May cause respiratory irritation H319: Causes serious eye irritation

Component E: H303 + H333 May be harmful if swallowed or if inhaled

H316 Causes mild skin irritation H320 Causes eye irritation

H319 Causes serious eye irritation

Component F: H227 Combustible liquid

Component G: H303 May be harmful if swallowed, H315 Causes skin irritation, H319

Causes serious eye irritation

GHS Precautionary Statements:

Component A: - None Component B: - None

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.

Component D: P261: Avoid breathing dust/fume/gas/mist/vapors/spray

P264: Wash face, hands and any exposed skin thoroughly after handling

P302 + P352: IF ON SKIN: Wash with plenty of soap and water 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

P271: Use only outdoors or in a well-ventilated area

Component E: 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: 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.

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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/ vapors/ 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.

HMIS Classification:

HMIS Classification.							
Component A:	Component B: Component C:		Component D: Component E:		Component F:	Component G:	
Health hazard: 0	Health hazard: 0	Health hazard: 1	Health hazard: 0	Health hazard: 1	Health hazard: 0	Health hazard: 2	
Flammability: 2	Flammability: 2	Flammability: 0	Flammability: 0	Flammability: 0	Flammability: 2	Flammability: 1	
Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	

NFPA Rating:

THE THEORIES.						
Component A:	Component B:	Component C:	Component D:	Component E:	Component F:	Component G:
Health hazard: 0	Health hazard: 0	Health hazard: 1	Health hazard: 0	Health hazard:1	Health hazard: 0	Health hazard: 2
Fire: 2	Fire: 2	Fire: 0	Fire: 0	Fire: 0	Fire: 2	Fire: 1
Reactivity hazard: 0						

3. Composition / Information on Ingredients

Ingredients/Components:

Ingreatents/Components	•	
Chemical Name:	Description	CAS Number:
Component A	Contains DMSO	67-68-5
Component B	Contains DMSO	67-68-5
Component C	Proprietary	N/A
Component D	Proprietary	N/A
Component E	Proprietary	N/A
Component F	Contains DMSO	67-68-5
Component G	1 M DTT solution	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: Flush eyes with water as a precaution.

Component C

Inhalation: Remove from exposure and move to fresh air immediately. 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. Do not induce vomiting. 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:* 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 F

Inhalation: If breathe d 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: 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.

5. Fire Fighting Measures

Extinguishing media:	Component A, B and F: For small fires, use dry chemical, or carbon
	dioxide. For large fires, use water spray from a safe distance.
	Component C, D, E, and G: Use water spray, dry chemical or carbon
	dioxide.
Special firefighting procedures:	Component A, B and F: Fire fighters should wear positive pressure
	self-contained breathing apparatus (SCBA) and full turnout gear.
	Component C, D, E and G: Wear self-contained breathing apparatus if
	necessary.
Unusual fire and explosions hazards:	Component A, B and 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.
	Component C: Hydrogen chloride gas, Sodium oxides, carbon dioxide,
	carbon monoxide, nitrogen oxides formed under fire conditions.
	Component D: Carbon oxides, nitrogen oxides (NOx), and sulphur
	oxides formed under fire conditions.
	Component E: Carbon oxides, sodium oxides, and nitrogen oxides
	(NOx) formed under fire conditions.
	Component G: Hazardous carbon oxides and sulphur oxides formed
	under fire conditions.
6. Accidental Release Measures	
Containment and spill response	Component A, B and 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 C, D, E, and G: Keep in suitable, closed container for
	disposal. Do not let material enter drains.
PPE	Use personal protective equipment

7. Handling and Storage

Component A, B and 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 C, D and E:

Handling: Avoid contact with skin and eyes.

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

Component G:

Handling: Avoid contact with skin and eyes.

Storage: Store in a tightly closed c	container in a dry place at -20°C.			
8. Exposure Controls / Personal Protec	tion			
Engineering controls	Component A, B, F and G: Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present. Component C, D and E: Not applicable.			
PPE	Components A, B, C, D, E, F and G:			
	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 (EN166)			
O Dispersional and Chamical Duamontics				
9. Physical and Chemical Properties Physical State	Liquid			
Odor	Not determined			
Solubility in Water	Soluble			
Specific Gravity	Not determined			
pH	Component C -8.0			
•	Component D -5.5			
	Component E -3.9			
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	Not applicable			
Dangerous Reactions	Not applicable			
11.Toxicological Information				
RTECS Number	Component A: PV6210000			
III Ded Italiaeli	Component B: PV6210000			
	Component C: VZ4725000			
	Component D: N/A			
	Component E: AJ4300010			

	Component F: PV6210000
	Component G: EK1612000
Toxicity	Component A, Component B and Component F contain 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 C:
	Acute toxicity
	Oral LD50
	LD50 Oral - rat- >3000 mg/kg
	Skin - Moderate irritant - rabbit
	Skin - Severe irritant - rabbit
	Component D and E:
	Acute toxicity
	Oral LD50
	LD50 Oral - rat - 2,580 mg/kg
	Serious eye damage/eye irritation
	Eyes - rabbit - Eye irritation
	Component G
	LD50 Intraperitoneal - mouse - 179 mg/kg
Health Hazards	No data available
Potential Hazards	Potential Health Effects
	Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
	Ingestion: Harmful if swallowed.
	Skin: May be harmful if absorbed through skin. May cause skin irritation.
	Eyes: Causes 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.
Carcinogenicity:	No data available
OSHA Permissible Exposure Limit(PEL)	No data available
Data	
ACGIH Threshold Limit Values (TLV)	No data available
12. Ecological Information	

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

Components C

Toxicity

No data available

Toxicity to daphnia and other aquatic invertebrates

NOEC - Daphnia - 1,500 mg/l - 7 d

LC50 - Daphnia magna (Water flea) - 1,661 mg/l - 48 h

Component D

Toxicity

No data available

Component E:

Toxicity

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 13,330 mg/l - 120 h

LC50 - Lepomis macrochirus (Bluegill) - 5,000 mg/l - 24 h

Toxicity to daphnia

and other aquatic

invertebrates

EC50 - Daphnia magna (Water flea) - > 1,000 mg/l - 48 h

Persistence and degradability

Biodegradability Result: 99 % - Readily biodegradable.

Component G

Toxicity

No data available

13. Disposal Considerations

For Components A, B and F

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 Components C, D, E and G

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	3
Identification Number	N/A
Packing Group	N/A
Proper Shipping Name (DOT)	N/A

California Proposition 65:	N/A
US TSCA (Toxic Substance Control Act)	Component A: Listed
,	Component B : Listed
	Component C: Listed
	Component D : Not Listed
	Component E : Listed
	Component F : Listed
	Component G: Not Listed
US CERCLA (Comprehensive Environmental	Component A: 261.33 8(d).
Response, Compensation, and Liability Act)	Component B : 261.33 8(d).
	Component C: 261.33 8(d)
	Component D : Not listed
	Component E : 261.33 8(d).
	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: Fire Hazard, Chronic Health Hazard
	Component B
	SARA 302 components: N/A
	SARA 313 components: N/A
	SARA 311/312 Hazards: Fire Hazard, Chronic Health Hazard
	Component C
	SARA 302 components: N/A
	SARA 313 components: N/A
	SARA 311/312 Hazards: N/A
	Component D
	SARA 302 components: N/A
	SARA 313 components: N/A
	SARA 311/312 Hazards: Acute Health hazard
	Component E
	SARA 302 components: N/A
	SARA 313 components: N/A
	SARA 311/312 Hazards: N/A
	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: Acute Health Hazard

US Clean Air 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, F and G
US Clean Water Act	Listed under "Hazardous Substances": Not listed
	Listed under "Priority Pollutants": Not listed
	Listed under "Toxic Pollutants": Not listed
	Component C, D, E
	Listed under "Hazardous Substances": 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:
Pennsylvania						
Revision Date						
2007-03-01	2007-03-01	CAS# 77-86-1	CAS# 145224-	CAS# 127-09-	2007-03-01	CAS#16096-
67-68-5	67-68-5		94-8, 60-00-4	3, 60-00-4	67-68-5	97-2
New Jersey						
Revision Date						
2007-03-01	2007-03-01	CAS # 77-86-1	CAS# 145224-	CAS# 127-09-	2007-03-01	CAS#16096-
67-68-5	67-68-5		94-8, 60-00-4	3, 60-00-4	67-68-5	97-2
Massachusetts						
N/A	N/A	N/A	Revision Date	Revision Date	N/A	N/A
			CAS# 60-00-4	CAS# 60-00-4		

European/International Regulations:

	Component A:	Component B:	Component C:	Component D:	Component E:	Component F:	Component G:
EC EINICS	200-664-3	200-664-3	231-598-3	224-632-3	204-823-8	200-664-3	240-263-0
EC Risk statements	36/37/38	36/37/38	N/A	36/37/38	36/37/38	36/37/38	36/37/3822
WGK	1	1	0	3	1	1	N/A
Canada- DSL/NDSL	Listed	Listed	Listed	Not Listed	Listed	Listed	Not Listed
Canada- WHMIS classification	D2B	D2B	D2B	D1B, D2B	D2B	D2B	D1B, D2B
Canada- Canadian Ingredient Disclosure List	Listed	Listed	Not 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.