Safety Data Sheet (SDS)

	Safety Data Sneet (SDS)
Revision Number: 1.1	Last updated: April 2015
1. Product and Comp	ny Identification
Product Name:	SensoLyte® 490 HCV Protease Assay Kit * Fluorimetric*
Manufacturer/Supplier:	AnaSpec, Inc.
	www.anaspec.com
	34801 Campus Drive
	Fremont, CA 94555
	Tel: 510-791-9560
	Fax: 510-791-9572
	Email: service@anaspec.com
Catalog Number	AS-72087
Unit Size	1 kit
2. Hazards Identifica	<u>on</u>
Emergency Overview:	
GHS Hazard Classification	
GHS Physical Hazards	anont A. Flammahla liquid (Catagory 1)
	onent A: Flammable liquid (Category 4)
	onent B: Flammable liquid (Category 4)
	onent C: Irritant (Category 3)
Com	onent D: Acute toxicity, Oral (Category 4)
	Acute toxicity, Dermal (Category 3)
	Skin irritation (Category 2)
	Eye irritation (Category 2A) Specific target organ toxicity - single exposure (Category 3)
Com	Acute aquatic toxicity (Category 2)
Com	onent E: Acute toxicity, Oral (Category 5) Skin irritation (Category 2)
	Eye irritation (Category 2A)
Com	onent F: N/A
GHS Health and Environm	
	onent A: Irritant to eyes and skin
	onent B: Irritant to eyes and skin
	onent C: Irritant to eyes and skin, mutagen, toxin
	onent D: Target organ effect, harmful by ingestion, toxic by skin absorption, irritant
	onent E: Target organ effect, toxic by ingestion, irritant
	onent F: Irritant to eyes and skin
GHS Signal Words:	•
	onent A: Warning
	onent B: Warning
Com	onent C: Warning

Component D: Danger Component E: Warning Component F: N/A

GHS Hazard Statements:

Component A: H227 Combustible liquid Component B: H227 Combustible liquid Component C: H315 Causes skin irritation

> H319 Causes serious eye irritation H335 May cause respiratory irritation

Component D: H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H401 Toxic to aquatic life.

Component E: H303 May be harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Component F: N/A

GHS Precautionary Statements:

Component A: None **Component B:** None

Component C: 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/ vapours/ spray.

P280 Wear protective gloves/ protective clothing.

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.

Component E: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Component F: N/A

HMIS Classification:

Component A:	Component B:	Component C:	Component D:	Component E:	Component F:
Health hazard: 0	Health hazard: 0	Health hazard: 2	Health hazard: 2	Health hazard: 2	Health hazard: 1
Flammability: 2	Flammability: 2	Flammability: 1	Flammability: 3	Flammability: 0	Flammability: 0
			Physical hazards:	Physical hazards:	Physical hazards:
Physical hazards: 0	Physical hazards: 0	Physical hazards: 0	3	0	0

NFPA Rating:

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

3. Composition / Information on Ingredients

Ingredients/Components:

Chemical Name:	Description	CAS Number:
Component A	Contains DMSO	67-68-5
Component B	Contains DMSO	67-68-5
Component C	Proprietary	NA
Component D	Proprietary	NA
Component E	Contains DTT	3483-12-3
Component F	Pep4AK	None

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: 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: 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 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 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.

5. Fire Fighting Measures

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: Not applicable
	Component E: Use water spray, alcohol-resistant foam, dry chemical or
	carbon dioxide.
	Component F: 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: Not applicable
	Component E: Wear self-contained breathing apparatus for fire fighting if
	necessary. Component F: 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: Hazardous carbon oxide, nitrous oxide, and sulphur oxide
	products are formed under fire conditions.
	Component D: Not applicable
	Component E: Hazardous carbon oxide and sulphur oxide products are
	formed under fire conditions.
	Component F: Not applicable

6. Accidental Release Measures

Containment and spill	Component A and B: Immediately contact emergency personnel. Prevent further
response	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: Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Component D: Contain spillage and collect with an electrically protected vacuum cleaner or wet brush. Keep in suitable, closed container for disposal.
	Component E: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Do not let product enter drains Component F: Sweep up the liquid. Do not let product enter drains.
PPE	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

Handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Storage: Store in a tightly closed container in a dry, well-ventilated area.

Component D:

Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Take measures to prevent the build up of electrostatic charge.

Storage: Store in a tightly closed container in a dry, well-ventilated area.

Component E:

Handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Storage: Store in a tightly closed container in a cool, well-ventilated area. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

Component F: Avoid contact with skin and eyes. Store in a tightly closed container.

8. Exposure Controls / Personal Protection

Engineering controls	Component A and B: Facilities storing and using this material should be equipped with a
	safety shower and eyewash station. Adequate ventilation should also be present.

Component C: Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.

Component D: Contain spillage and collect with an electrically protected vacuum cleaner or wet brush. Keep in suitable, closed container for disposal.

Component E: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Component F: Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present.

PPE Component A and B

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.

Component C

Respiratory System: If necessary, use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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. Wash and dry hands.

Eyes: Handle with 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).

Component D:

Respiratory System: If necessary, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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. Wash and dry hands.

Eyes: Use equipment for eye protection tested and approved under appropriate government

standards such as NIOSH (US) or EN 166(EU).

Component E:

Respiratory System: If necessary, use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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. Wash and dry hands.

Eyes: Use 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).

Component F:

Wear appropriate chemical-resistant gloves, safety goggles and protective clothing.

9. Physical and Chemical Properties

Physical State	Liquid
Odo	Not determined
Solubility in Water	Soluble
Specific Gravity	Not determined
рН	Component C –7.5
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	Component A and B: Hazardous carbon oxides and sulphur oxides formed under fire conditions.
	Component C: Hazardous carbon oxides, nitrous oxides, and sulphur oxides formed under fire conditions.
	Component D: NA
	Component E: Hazardous carbon oxide and sulphur oxide products are formed under fire conditions.
	Component F: NA

Dangerous Reactions	Not Applicable
11.Toxicological Informati	<u>on</u>
RTECS Number	Component A: PV6210000
	Component B: PV6210000
	Component C: Proprietary
	Component D: Proprietary
	Component E: EK1610000
	Component F: NA
Toxicity	Component A and Component B 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
	LD50 Oral –mouse - 2,900 mg/kg
	LD50 Oral – rabbit - 5 g/kg
	LD50 Dermal – rabbit - >10,000 mg/kg
	Component D
	LD50 Oral – rat - 1,288 mg/kg
	LC50 Inhalation – rat – 1 h - $>3,900 \text{ mg/m}3$
	LD50 Dermal – rabbit - 580 mg/kg
	Component E
	Not available
	Component F
	Not available
Health Hazards	No data available
Potential Hazards	Potential Health Effects
	Component C
	<i>Inhalation:</i> May be harmful if inhaled. Causes respiratory tract irritation.
	Skin: May be harmful if absorbed through skin. Causes skin irritation
	Eyes: Causes eye irritation.
	Ingestion: May be harmful if swallowed.
	Target Organs: Kidney, Liver

Com Inha Inge. Skin.	: Causes eye irritation. aponent E lation: May be harmful if inhaled. Causes respiratory tract irritation.
	stion: Toxic if swallowed. May be harmful if absorbed through skin. Causes skin irritation. Causes eye irritation.
Inha Skin. Eyes	Apponent F lation: May be harmful if inhaled. Causes respiratory tract irritation. : May be harmful if absorbed through skin. Causes skin irritation. :: Causes eye irritation. stion: May be harmful if swallowed.
Carcinogenicity: No d	lata available
OSHA Permissible Exposure Limit(PEL) Data	lata available
ACGIH Threshold Limit Values (TLV)	No data available

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

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 C

No data available

Component D

Toxicity

Toxicity to fish mortality NOEC - Oncorhynchus mykiss (rainbow trout) - 19.5 mg/l - 96 h

mortality LOEC - Pimephales promelas (fathead minnow) - 4.6 mg/l - 8 d

LC50 - Oncorhynchus mykiss (rainbow trout) - 3.6 mg/l - 96 h

Toxicity to algae Growth inhibition LOEC - Pseudokirchneriella subcapitata - 2.68 mg/l - 6 d

Persistence and degradability

No data available

Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 72 h

Bioconcentration factor (BCF): 3.9 - 5.3

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

Component E

No data available

Component F:

No data available

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13. Disposal Considerations

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

Contaminated packaging

Dispose of as unused product.

For Component C

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

Contaminated packaging

Dispose of as unused product.

For Component D

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material

is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed

professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

For Component E

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.

For Component F

Contaminated packaging

Dispose of as unused product.

14. Transport Information: IATA Exempted quantities labeling			
UN Number	N/A		
Hazard Class	N/A		
Identification Number	N/A		
Packing Group	N/A		
Proper Shipping Name (DOT)	N/A		

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

US Clean Air Act:	Component A, B, C, D, E and F Listed under Hazardous Air Pollutants: Not listed Listed under Class 1 Ozone Depletors: Not listed Listed under Class 2 Ozone Depletors: Not listed	
US Clean Water Act:	Components A, B, C, D,E and F Listed under "Hazardous Substances": Not listed Listed under "Priority Pollutants": Not listed Listed under "Toxic Pollutants": Not listed	

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

OB States. Right-to-Kh	now. Listed in the following States.					
Component A:	Component B:	Component C:	Component D:	Component E:	Component F	
Pennsylvania	Pennsylvania	Pennsylvania			N/A	
Revision Date 2007-	Revision Date 2007-	Revision Date 2007-	Pennsylvania	Pennsylvania		
03-01	03-01	03-01	Revision Date N/A	Revision Date N/A		
New Jersey	New Jersey	New Jersey			N/A	
Revision Date 2007-	Revision Date 2007-	Revision Date 2007-	New Jersey	New Jersey		
03-01	03-01	03-01	Revision Date N/A	Revision Date N/A		
		Massachusetts			N/A	
		Revision Date 2007-				
N/A	N/A	03-01	N/A	N/A		

European/International Regulations:

	Component A	Component B	Component C	Component D	Component E	Component F
EC EINICS	200-664-3	200-664-3	N/A	205-788-1	222-468-7	NA
EC Risk statements	36/37/38	36/37/38	N/A	36/37/38-36/38- 22-11-21/22-42- 41-20/21/22	22/36/37/38	NA
WGK	1	1	1	2	3	NA
Canada- DSL/NDSL	Listed	Listed	Not listed	Listed	Listed	Not listed
Canada- WHMIS classification	D2B	D2B	D2B	D2B	D2B, D1B	NA
Canada- Canadian Ingredient Disclosure List	Listed	Listed	Listed	Not Listed	Not 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.