Safety Data Sheet (SDS)

Revision Number: 1.0	*Last updated: February 28, 2014*

1. Product and Company Identification

Product Name:	**AnaTag™ Biotin Protein Labeling Kit**
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	72057
Unit Size	1 kit

2. Hazards Identification

Emergency Overview:

GHS Hazard Classification:

GHS Physical Hazards

Component D: Flammable liquid (Category 4)
Other Components: Not Applicable

GHS Health and Environmental Hazards

Component A: Not Applicable
Component B: Irritant to eyes
Component C: Irritant to eyes
Component D: Irritants to eyes and skin
Component E: Irritant to eyes and skin

GHS Signal Words:

Component D: Warning
Other Components: Not Applicable

GHS Hazard Statements:

Component A,B,C: None
Component D: H227 Combustible liquid
Component E: H303 May be harmful if swallowed.

GHS Precautionary Statements: None

HMIS Classification:

Component A:	**Component B:**	**Component C:**	**Component D:**	**Component E:**
Health hazard: 0	*Health hazard:* 0	*Health hazard: 0*	*Health hazard: 0*	*Health hazard: 0*
Flammability: 0	*Flammability:* 0	*Flammability: 0*	*Flammability: 2*	*Flammability: 0*
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: 0	*Health hazard:* 0	*Health hazard: 0*	*Health hazard: 0*	*Health hazard: 0*
Fire: 0	*Fire:* 0	*Fire:* 0	*Fire:* 2	*Fire:* 0
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	Proprietary	N/A
Component B	Proprietary	N/A
Component C	Polyacrylamide-co-methylene-bis-acrylamide	25034-58-6
Component D	DMSO	67-68-5
Component E	Proprietary	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: Not Applicable

Component B

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.
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: Induce vomiting and call for medical help.
Skin: Generally this component does not irritate the skin
Eyes: Rinse thoroughly with plenty of water for at least 15 minutes.

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. Consult a physician.

Eyes: Flush eyes with water as a precaution.

Component E

Inhalation: Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Skin: Rinse with plenty of water. If symptoms arise, call a physician.

Eyes: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

5. Fire Fighting Measures

Extinguishing media:	**Component A:** Not Applicable **Component B:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. **Component C:** CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam **Component D:** For small fires, use alcohol resistant foam, dry chemical, or carbon dioxide. For large fires, use water spray from a safe distance. **Component E:** Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
Special firefighting procedures:	**Component A:** Not Applicable **Component B:** Wear self-contained breathing apparatus for firefighting if necessary. **Component C:** No special measures required **Component D:** Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. **Component E:** Wear self-contained breathing apparatus and protective Suit.
Unusual fire and explosions hazards:	**Component D:** 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. **Other Components:** None

6. *Accidental* Release Measures

Containment and spill response	**Component A:** Not Applicable **Component B:** Keep in suitable, closed containers for disposal. 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: Wear protective equipment. Keep unprotected persons away. **Component D:** 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 E:** Soak up with inert absorbent material
PPE	Use personal protective equipment

7 . Handling and Storage

Component A, C: Keep in dry place.
Component B: Keep container tightly closed in a dry and well-ventilated place.
Component D: *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 E:
Handling: Avoid contact with skin, eyes and clothing. Wear personal protective equipment.
Storage: Keep in a dry, cool and well-ventilated place.

8. Exposure Controls / Personal Protection

Engineering controls	**Component A:** Not Applicable **Component C:** Facilities storing and using this material should be equipped with a safety shower and eyewash station. **Component B:** Facilities storing and using this material should be equipped with a safety shower and eyewash station. **Component D:** Facilities storing and using this material should be equipped with a safety shower and eyewash station. Adequate ventilation should also be present. **Component E:** Ensure adequate ventilation, especially in confined areas
PPE	**Component A ,B:** *Respiratory System:* Respiratory protection not required *Hands:* 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. *Eyes:* Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). *Skin and body protection:* impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

	Component C: The usual precautionary measures of handling chemicals should be followed *Hands:* Protective gloves *Eyes:* Safety glasses. **Component D:** *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 E:** *Respiratory System:* In case of insufficient ventilation wear suitable respiratory equipment. *Skin and Body:* Lightweight protective clothing. *Hands:* Impervious gloves. *Eyes:* Safety glasses with side-shields

9. Physical and Chemical Properties

Physical State	Component A,C-Solid Component B, D and E-Liquid
Odo	Not determined
Solubility in Water	Soluble
Specific Gravity	Not determined
pH	Component B -9 Component C-7 Component E -7.3
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.B,C and E:** NA **Component D:** PV6210000
Toxicity	**Component D** *contains 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
Health Hazards	No data available
Potential Hazards	None
Carcinogenicity:	No data available
OSHA Permissible Exposure Limit(PEL) Data	No data available
ACGIH Threshold Limit Values (TLV)	No data available

12. Ecological Information

Component C: Water hazard class 1 (German Regulation): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Component D: For Dimethyl sulfoxide (DMSO) CAS-No. 67-68-5
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

13. Disposal Considerations

Component C: Hand over to hazardous waste disposers
Component D: 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.
Contaminated packaging
Dispose of as unused product.

14. Transport Information: IATA Excempted quantities labeling

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

15. Regulatory information

California Proposition 65:	None
US TSCA (Toxic Substance Control Act):	**Component A,B,C and E:** Not listed **Component D:** Listed
US CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act:	**Component A,B,C and E:** N/A Component **D**: 261.33 8(d).
US SARA Title III	**Component A,B,C, E** 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: Fire Hazard, Chronic Health Hazard
US Clean Air Act: *US Clean Water Act*	**Component A, B, C, D , E** 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, C, D,E** 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:

Component A:	Component B:	Component C:	Component D:	Component E:
N/A	*N/A*	N/A	Pennsylvania Revision Date 2007-03-01	N/A
N/A	*N/A*	N/A	New Jersey Revision Date 2007-03-01	N/A
N/A	*N/A*	*N/A*	*N/A*	*N/A*

European/International Regulations:

	Component A	Component B	Component C	Component D	Component E
EC EINICS	N/A	N/A	N/A	200-664-3	N/A
EC Risk statements	N/A	N/A	N/A	36/37/38	N/A
WGK	N/A	N/A	N/A	1	N/A
Canada-DSL/NDSL	Not listed	Not listed	Not listed	Listed	Not listed
Canada-WHMIS classification	N/A	D2B	D2B	D2B	N/A
Canada-Canadian Ingredient Disclosure List	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.

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