

# MATERIAL SAFETY DATA SHEET

## OSHA "Hazard Communication" (29 CFR 1910.1200)

### Section I- Manufacturer and Products

Genisphere Inc.  
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Hatfield, PA 19440

TELEPHONE FOR INFORMATION: Toll free in USA, Canada, Mexico call 877-888-3362  
Local and International call 1-215-996-3000

Molecular Biology and Immuno-detection Reagents

Product Name: UltraAmp Multi-Assay Signal Amplifier Reagents

Product No's.: AB9050, AB3550, AB0550, AB2080, AB0380, AB2090, AB0390, AB9000, AS9070, AS3570, AS0570, AS2080, AS0380, AS2090, AS0390, AF9050, AF3550, AF0550, AF9060, AF3560, AF0560, AF9070, AF3570, AF0570, AF2080, AF0380, AP9070, AP3570, AP0570, AM9060, AM3560, AM0560, AM9070, AM3570, AM0570, AM2080, AM0380, AM2090, AM0390, AM9000, AR9070, AR3570, AR0570, AR2080, AR0380, AR2090, AR0390, AH9070, AH3570, AH0570, AH2080, AH0380, AH2090, AH0390, AL9070, AL3570, AL0570, AL2080, AL0380, AL2090, AL0390, AT9070, AT3570, AT0570, AT2080, AT0380, AT2090, AT0390, AA9050, AA3550, AA0550, AA9070, AA3570, AA0570, AA2080, AA0380, AA2090, AA0390, AC9060, AC3560, AC0560, AC9070, AC3570, AC0570, AC2080, AC0380, AC2090, AC0390 and suffixes thereof.

Reagents for the detection of nucleic acid and protein analytes.

Includes product insert and 3DNA dendrimer (labeled with targeting and signaling moieties) in storage buffer sufficient for 10 to 100 assays per kit.

### Section II- Composition, Information on Ingredients

Substance / Preparation: Preparation

Ingredient Name	CAS number	%
Ethylene glycol	107-21-1	49.999% (v/v)
Thimerosal	54-64-8	0.001% (w/v)
Dendrimer (nucleic acid)	N/A	1.0% (w/v)
Proprietary aqueous buffer	N/A	49.0% (v/v)

Appearance: clear, pale pink or blue, dependent upon the signaling label or dye utilized.

### Section III- Hazards Identification

Concentration of Hazardous Components:

0.01 mg thimerosal/mL (0.001%) of liquid product. According to OSHA Hazard Communications Standard (CFR 1910.1200), if a mixture contains less than 1% of a hazardous chemical or 0.1% of a carcinogen, the mixture shall not be considered hazardous for that component. However, precautions for handling potentially dangerous reagents should be practiced when using these products. To aid in determining handling procedures, please refer to this MSDS.

United States: Review the most current and approved institutional guideline, protocol, standard operating procedure(s) and MSDS(s) for the proper handling of institutional materials /equipment associated with the use of this product.

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**Product Name: UltraAmp Multi-Assay Signal Amplifier Reagents**

**Emergency Overview:** Warning!

CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
KIDNEYS, NERVOUS SYSTEM, LIVER, BRAIN, CARDIOVASCULAR SYSTEM, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS:  
REPRODUCTIVE SYSTEM.

Avoid contact with skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

**Target Organs:** Contains material which causes damage to the following organs: kidneys, the nervous system, liver, brain, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS), eyes, lens or cornea.

**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential Acute Health Effects:**

Eyes	Irritating to eyes.
Skin	Irritating to skin.
Inhalation	Irritating to respiratory system.
Ingestion	No known significant effects or critical hazards.

**Potential Chronic Health Effects**

Carcinogenic Effects Data:

**CARCINOGENIC EFFECTS:** Classified None by NIOSH. Classified A4 (not classifiable for human or animal) by ACGIH.

**MUTAGENIC EFFECTS:** Classified PROVEN for human. Mutagenic for mammalian somatic cells.

**TERATOGENIC EFFECTS:** Classified SUSPECTED for human.

Medical Conditions Aggravated by Overexposure: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Overexposure / Signs / Symptoms: Not available.

## Europe

Classification:	Xn; R22
Physical/chemical hazards:	Not applicable.
Human health hazards:	Harmful if swallowed.
Environmental hazards:	Not applicable.

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## Section IV- First Aid Measures

**Notice to Reader:** Get immediate medical attention.

### Effects and Symptoms

Inhalation: Hazardous in case of inhalation (lung irritant).  
Ingestion: Hazardous in case of ingestion.  
Skin Contact: Sensitization of the product: not available  
Hazardous in case of skin contact (irritant). Slightly hazardous in case of skin contact (permeator). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering  
Eye contact: Hazardous in case of eye contact (irritant).  
Aggravating conditions: Repeated exposure to a highly toxic material may product general deterioration of health by an accumulation in one or many human organs.

### First-Aid Measures

Inhalation: In case of inhalation, remove from source and provide fresh air. Ventilate if necessary. Get medical attention.  
Ingestion Do NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.  
Skin Contact In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention.  
Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

**Notes to Physician:** Not available.

**Protection of First-Aiders:** Not available.

## Section V- Fire Fighting Measures

**Flammability of the Product** May be combustible at high temperatures.

**Flash Points** The lowest know value in Closed cup: 111°C (231.8°F). Open cup: 115°C (239°F).

**Fire Hazards in Presence of Various Substances:** Slightly flammable to flammable in presence of open flames, sparks and static discharge, or heat.

**Fire Fighting Media and Instructions:** Use an extinguishing agent suitable for surrounding fires.

**Protective Clothing (Fire):** Be sure to use an approved/certified respirator or equivalent.

**Special Remarks on Fire Hazards:** When heated to decomposition it emits acrid smoke and irritating fumes.

**Hazardous Thermal Decomposition Products:** These products are carbon oxides (CO, CO<sub>2</sub>)

## Section VI- Accidental Release Measures (Spill or Leak Procedures)

**Personal Precautions:** Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear protective gloves.

**Environmental Precautions and Clean-up Methods:** Absorb with an inert material and put the spilled material in an appropriate waste disposal.

**Small Spill and Leak:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

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## Section VII- Handling and Storage

**Handling:** Do not ingest. Wash thoroughly after handling.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Intended Use:** Refer to the product insert for proper and intended use. Otherwise, contact supplier for specific applications.

**Packaging Materials:** Use original container only.

## Section VIII- Exposure Controls/Personal Protection

**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Exposure Limit Values

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
Polyethylene glycol	ACGIH TLV (Unites States, 1/2004). Notes: see Notice of Intended Changes. Refers to Appendix A – Carcinogens. CEIL: 100 mg/m <sup>3</sup> Form: Aerosol OSHA PEL 1989 (Unites States, 3/1989). CEIL: 125 mg/m <sup>3</sup> Form: All forms CEIL: 50 ppm Form: All forms.

0.001% Thimerosal Not applicable.

## Section IX- Physical and Chemical Properties

**Physical State and Appearance:** Liquid, colorless to slight pink or blue, odorless, sweet taste.

**Molecular weight:** Not applicable.

**pH** 7.0 – 8.0

**Boiling / Condensation Point:** The lowest known value is 195-197°C (383-387°F) for propylene glycol.

**Melting / freezing point:** -13°C (8.6°F).

**Specific gravity:** 1.113 gm/mL

## Section X- Stability and Reactivity

**Stability and Reactivity:** The product is stable.

**Conditions to Avoid:** Not available.

**Materials to Avoid:** Reactive with oxidizing agents, acids, and alkalis.

**Hazardous Polymerization:** Will not occur.

**Hazardous Decomposition Products:** Not available.

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## Section XI- Toxicological Information

### Toxicity to Animals

Polyethylene glycol: ORAL (LD50) Rat - Acute: 4700 mg/kg. Mouse – Acute: 5500 mg/kg.  
DERMAL (LD50) Rabbit – Acute: 9530 mg/kg.

Thimerosal: ORAL (LD50) Rat - Acute: 75 mg/kg. Mouse – Acute: 91 mg/kg.

## Section XII- Ecological Information

**Mobility:** Not Available.

**Persistence / degradability:** Not available.

**Bioaccumulative potential:** Not available.

### Ecotoxicity data for ethylene glycol:

Species	Period	Result
Pimephales promelas (LC50)	96 hours	8050 mg/L
Rainbow trout (LC50)	96 hours	18050 mg/L
Lepomis macrochirus (LC50)	96 hours	27540 mg/L
Oncorhynchus mykiss (LC50)	96 hours	41000 mg/L
Pimephales promelas (LC50)	96 hours	49000 mg/L
Pimephales promelas (LC50)	96 hours	53000 mg/L

## Section XIII- Disposal Considerations

**Waste Stream:** Not available.

**Methods of disposal:** The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

## Section XIV- Transport Information

Contact the supplier for all information regarding the proper transportation method for this material.

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## Section XV- Regulatory Information

### Label Requirements

#### Europe

R22 -- Harmful if swallowed.  
S2 -- Keep out of reach of children S46 -- If swallowed, seek medical advice immediately and show this container or label.



#### HCS Classification

**Irritating material**  
**Target organ effects**

#### U.S. Federal Regulations

TSCA 8(b) inventory: polyethylene glycol, thiomersal  
TSCA 8(d) H and S data reporting: polyethylene glycol  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.  
SARA 302/304/311/312 hazardous chemicals: polyethylene glycol.  
SARA 311/312 MSDS distribution – chemical inventory – hazard identification polyethylene glycol: immediate (acute) health hazard, delayed (chronic) health hazard.

Clean Water Act (CWA) 307: thiomersal.  
Clean Water Act (CWA) 311: no products found.  
Clean Air Act (CAA) 112: accidental release prevention: no products found.  
Clean Air Act (CAA) 112: regulated flammable substances: no products found.  
Clean Air Act (CAA) 112: regulated toxic substances: no products found.

## Section XVI- Other Information

### Hazardous Material Information System (USA) National Fire Protection Association (USA)

Health	2
Fire Hazard	0
Reactivity	0
Personal Protection	0
Special	N/A

**For Research Use Only.** This product is not intended for diagnostic or therapeutic use.

**Date of Preparation:** 09 January 2006

Disclaimer: The information, data, and recommendations contained herein are believed to be accurate. Genisphere, Inc., makes no warranty of any kind whatever with respect thereto and disclaims all liability from reliance thereon. We reserve the right to revise this MSDS periodically as new information becomes available.