



Material Safety Data Sheet

Effective Date: February 2nd, 2010

Supersedes: October 28th, 2009

SmartMix HM

1. Identification of the Material and Company/Undertaking

Product name: SmartMix HM Catalog #: SMHM1-100N-200
Common name: Not applicable SMHM1-150N-040
Compound name: Not applicable

Manufacturer:
Cepheid
904 Caribbean Drive
Sunnyvale, CA 94089
USA

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The following MSDS is for the final finished product only as used in the laboratory that contain a bead contained in a tube. If manufacturing this product, consult the MSDSs for the individual ingredients and reagents.

2. Hazards Identification

Appearance: This product contains beads, which are freeze-dried white powders and are contained in micro tubes or dispensers.

Signal Word: CAUTION

Hazard Overview: Bead component as contained in a tube or dispenser will not present a hazard under normal use conditions; if tube or dispenser is broken or damaged and beads are spilled or released, contact may cause reversible skin and eye irritation or if repeatedly contacted may cause an allergic reaction in some cases.

Statement of Known

Hazard: This product would not be considered hazardous under normal conditions of use. The bead contains ingredients which are irritants to the skin and eyes. It also contains <3% bovine serum albumin, which as a foreign protein has the potential to cause an allergic skin reaction.

EU Indicator of Danger: Not applicable

EU Risk Phrases: Not applicable



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3. Composition Information on Ingredients

This product consists of tubes or dispensers with reagent bead(s).

SmartMix HM Bead is a freeze-dried powder bead as contained in the tube or dispenser with the following hazardous ingredients:

Ingredient	CAS#	EINECs / ELINCS #	% Composition	EU Risk Phrase
HEPES Acid and Salt	7365-45-9 (For Acid)	230-907-9 (For Acid)	<5	R36/37/38
Tween 20	9005-64-5	200-315-5	<5	R36/37/38
Magnesium Chloride	7786-30-3	232-094-6	<5	R36/37/38
Bovine Serum Albumin	9048-46-8	232-936-2	<3	R42

All other ingredients of the bead are either non-hazardous under US and EU regulations or GHS guidelines and/or at concentrations less than 1% in the mixture.

4. First Aid Measures

The following first aid measures are good practices for any chemical exposure.

Eye: Flush thoroughly with water and notify supervisor and EHS personnel. If an irritation develops, get medical aid.

Skin: Flush thoroughly with water and notify supervisor and EHS personnel. If an irritation develops, get medical attention.

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Inhalation: Remove to fresh air and get medical attention for any breathing difficulty.

5. Fire Fighting Measures

Flammability/Explosivity: None of the components of the bead are considered flammable or explosive.

Extinguishing Media: CO₂, multipurpose dry chemical or vaporizing liquid fire extinguisher.



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Special Fire Fighting Procedures:

Wear full protective clothing and a self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode for surrounding fire. Decontaminate all equipment after use.

Hazardous Decomposition Products: None known.

6. Accidental Release Measures

If product/material is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment. For small spills, wear gloves and absorb spill with paper towel. Dispose of material according to local, State and Federal waste disposal regulations (see Section 13).

For larger spills, wear personal protective clothing to minimize exposure such as overgarment, gloves and eye protection (goggles), cover spill with absorbent material. Collect spilled material, absorbent, and rinse waters into suitable containers for proper disposal in accordance with applicable local, state or Federal waste disposal regulations (see Section 13).

7. Handling and Storage

Handling Precautions: Avoid skin contact, eye contact and inhalation.

Storage Requirements: Store according to product labeling.

8. Exposure Controls/Personal Protection

Occupational Exposure

Limits: None of the ingredients contained in this product have occupational exposure limits established by OSHA, NIOSH, ACGIH or Cepheid.

Engineering Controls: None normally required. When practicable, handle material in enclosed or contained processes or in processes with effective local exhaust ventilation.

Eye Protection: Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face.

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Respiratory Protection: None normally required. When possible, handle material in enclosed processes or containers. If it is properly handled with effective ventilation or containment, respiratory protection should not be needed.

Skin Protection: Rubber gloves are recommended to minimize potential for skin contact. In laboratory setting, wear lab coat or other protective overgarment to minimize skin contact. Base the choice of protection on the job activity and potential for skin contact.

Other: Facilities storing or using this product should be equipped with an eyewash station and a safety shower. Wash hands, face and other potentially exposed areas immediately after handling material (especially before eating, drinking, or smoking). Decontaminate all protective equipment after use.

9. Physical and Chemical Properties

Physical State: The beads are a solid components in tubes.

Odor: Components are odorless.

Vapor Pressure: Minimal.

Evaporation Rate: Minimal.

Viscosity: Not applicable.

Boiling Point: Not applicable/solid .

Freezing/Melting Point: No data identified.

Solubility: Beads are soluble in aqueous solutions

pH: 7.9-8.1

10. Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other materials: Strong oxidizing agents, peroxides, strong acids and bases, acid chlorides, acid anhydrides, alkali metals, ammonia.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides, and sulfur oxides.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Acute Toxicity: The tube contains a freeze-dried powder bead which should not present an acute toxicity hazard unless the beads are released or spilled. Magnesium chloride has low to moderate acute toxicity with oral LD50 of 2800 mg/kg in the rat. Tween 20 is not considered acutely toxic.



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Irritation/Sensitization: HEPES Salt and HEPES acid are considered skin and eye irritants. Bovine serum albumin, as a foreign protein is considered a potential allergen but because it is contained in the bead within the tube, the potential to cause an allergic reaction under normal use conditions is considered low. Tween 20 is considered an irritant to the skin and eyes if contacted and respiratory tract if inhaled.

Repeated dose toxicity – No data identified on ingredients.

Reproductive (fertility) and Developmental (birth defects) toxicity – No data identified. None of the ingredients are considered reproductive or developmental toxicants.

Mutagenicity and Carcinogenicity – No data identified on mutagenicity. None of the ingredients are listed by NTP, IARC or OSHA as carcinogens.

12. Ecological Information

Ecotoxicity: No data identified.

Environmental Fate: No data identified.

13. Disposal Considerations

Consult your institution's environmental waste personnel on proper disposal of chemical products per local, state, and federal regulations. Institutions outside the USA should check their country hazardous waste disposal requirements.

14. Transport Information

Transport in accordance with all federal, state, and local transportation regulations.

All of the ingredients are not regulated by US DOT or IATA.

15. Regulatory Information

US OSHA: This MSDS complies with the requirements under 29 CFR 1910.1200.

No hazard labeling is required under US hazard communication regulations.

Canada – WHMIS Classifications

This product is not classified as hazardous according to WHMIS classification criteria.



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California Proposition 65

None of the ingredients are listed under California Proposition 65.

SARA 313: None of the ingredients are listed under this regulation.

CERCLA: None of the ingredients are listed under this regulation.

RCRA: None of the ingredients are listed under this regulation.

For R&D consumers, products are to be used only for R&D purposes.

16. Other Information

No other data available.

Abbreviations:

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS#:	Chemical Abstract Services Number
CFR	Code of Federal Regulations
CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act
DOT:	Department of Transportation
EINECS:	European Inventory of New and Existing Chemical Substances
EU:	European Union
GHS:	Global Harmonization System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
OSHA:	Occupational Safety and Health Administration
NTP:	National Toxicology Program
RCRA:	Resource Conservation and Recovery Act
SARA:	Superfund Amendments and Reauthorization Act
TSCA:	Toxic Substances Control Act

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