

# MATERIAL SAFETY DATA SHEET

FILE NO.: MSDS-201073 Ver 1.0

MSDS DATE: 09/22/2011

E-Pure CyTOF Calibration Beads

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## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** E-Pure CyTOF™ Calibration Beads, 100 mL

**SYNONYMS:** Not applicable.

**PRODUCT CODES:** 201073

**MANUFACTURER:** DVS Sciences Inc.

**DIVISION:**

**ADDRESS:** 70 Esna Park Drive, Unit 12  
Markham, ON L3R 6E7

**TECHNICAL PHONE:** (905) 513-1704

**PRODUCT USE:** For calibration of the CyTOF Mass Cytometer.

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## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

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**INGREDIENT:**

Europium doped polystyrene particles (1.8 µm spheres of polystyrene, with 10<sup>7</sup> atoms of Europium per sphere)

| <b><u>PRODUCT NAME</u></b>      | <b><u>CAS NO.</u></b> | <b><u>% VOL</u></b> |
|---------------------------------|-----------------------|---------------------|
| E-Pure CyTOF™ Calibration Beads | N/A                   | N/A                 |

**CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

|                                     |            |     |
|-------------------------------------|------------|-----|
| Europium (III) chloride hexahydrate | 13759-92-7 | 0.1 |
| Polystyrene beads                   | N/A        | N/A |

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## SECTION 3: HAZARDS IDENTIFICATION

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**EMERGENCY OVERVIEW:** Not a dangerous substance according to GHS.

**POTENTIAL HEALTH EFFECTS:**

**EYES:** May cause eye irritation.

**SKIN:** May be harmful if absorbed through skin. May cause skin irritation.

**INGESTION:** May be harmful if swallowed.

**INHALATION:** May be harmful if inhaled. May cause respiratory tract irritation.

**CARCINOGENICITY:**

**IARC:** No component of this product, present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No component of this product present, at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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## SECTION 4: FIRST AID MEASURES

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**EYES:** In case of eye contact, flush eyes with water as a precaution.

**SKIN:** In case of skin contact, wash off with soap and plenty of water.

**INGESTION:** If swallowed, never give anything by mouth to an unconscious person. Rinse mouth with water.

**INHALATION:** If inhaled, move person into fresh air. If not breathing, give artificial respiration.

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## SECTION 5: FIRE-FIGHTING MEASURES

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**CONDITIONS OF FLAMMABILITY:** Not flammable or combustible.

**EXTINGUISHING MEDIA:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus for firefighting if necessary.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** No data available.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hazardous decomposition products formed under fire conditions: Hydrogen Chloride gas.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**PERSONAL PRECAUTIONS:** Avoid breathing vapours, mist.

**ENVIRONMENTAL PRECAUTIONS:** Do not let product enter drains.

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:** Keep in suitable containers for disposal.

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## SECTION 7: HANDLING AND STORAGE

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**HANDLING AND STORAGE:** Provide appropriate exhaust ventilation at places where dust is formed.

**OTHER PRECAUTIONS:** Keep container tightly closed in a dry and well-ventilated place.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**ENGINEERING CONTROLS:** Use mechanical exhaust or laboratory fumehood to avoid exposure.

**RESPIRATORY PROTECTION:** Respiratory protection is not required. Where protection from nuisance levels of dusts or aerosols are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**EYE PROTECTION:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**HAND PROTECTION:** 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.

**SKIN PROTECTION:** Choose skin protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**WORK HYGIENIC PRACTICES:** General industrial hygiene practice.

**SECTION 8 NOTES:** Contains no substances with occupational exposure limit values.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Clear, colourless.

**ODOR:** N/A

**PHYSICAL STATE:** Liquid.

**pH AS SUPPLIED:** N/A

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)

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**BOILING POINT:** N/A

F:

C:

**MELTING POINT:** N/A

F:

C:

**FREEZING POINT:** N/A

F:

C:

**VAPOR PRESSURE (mmHg):** N/A

@

F:

C:

**VAPOR DENSITY (AIR = 1):** N/A

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F:

C:

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** N/A

@

F:

C:

**EVAPORATION RATE:** N/A

**BASIS (=1):** N/A

**SOLUBILITY IN WATER:** Fully soluble.

**PERCENT SOLIDS BY WEIGHT:** N/A

**PERCENT VOLATILE:** N/A

BY WT/ BY VOL @

F:

C:

**VOLATILE ORGANIC COMPOUNDS (VOC):** N/A

**WITH WATER:** LBS/GAL  
**WITHOUT WATER:** LBS/GAL

**MOLECULAR WEIGHT:** N/A

**VISCOSITY:** N/A

@

F:

C:

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## SECTION 10: STABILITY AND REACTIVITY

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**STABILITY:** Stable under recommended storage conditions.

**CONDITIONS TO AVOID (STABILITY):** N/A

**INCOMPATIBILITY (MATERIAL TO AVOID):** Incompatible with strong oxidizing agents.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Hazardous decomposition products formed under fire conditions: Hydrogen Chloride gas.

**HAZARDOUS POLYMERIZATION:** N/A

**CONDITIONS TO AVOID (POLYMERIZATION):** N/A

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### TOXICOLOGICAL INFORMATION:

**ORAL LD50:** No data available.

**INHALATION LD50:** No data available.

**DERMAL LD50:** No data available.

**OTHER INFORMATION ON ACUTE TOXICITY:** No data available.

**SKIN CORROSION/IRRITATION:** No data available.

**SERIOUS EYE DAMAGE/EYE IRRITATION:** No data available.

**RESPIRATORY OR SKIN SENSITIZATION:** No data available.

**GERM CELL MUTAGENICITY:** No data available.

**REPRODUCTIVE TOXICITY:** No data available.

**TERATOGENICITY:** No data available.

**SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (GHS):** No data available.

**SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE (GHS):** No data available.

**ASPIRATION HAZARD:** No data available.

**ADDITIONAL INFORMATION:** RTECS: Not available.

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## SECTION 12: ECOLOGICAL INFORMATION

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**ECOLOGICAL INFORMATION:** No data available.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**WASTE DISPOSAL METHOD:** Offer surplus and non-recyclable solutions to a licensed disposal company.

**RCRA HAZARD CLASS:** N/A

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## SECTION 14: TRANSPORT INFORMATION

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**SECTION 14 NOTES:** Non-hazardous/dangerous for air, sea and road freight.

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## SECTION 15: REGULATORY INFORMATION

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### U.S. FEDERAL REGULATIONS

**TSCA (TOXIC SUBSTANCE CONTROL ACT):** Not listed on TSCA inventory.

**CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):** Not listed.

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):** Not listed.

**311/312 HAZARD CATEGORIES:** Not listed.

**313 REPORTABLE INGREDIENTS:** Not listed.

**STATE REGULATIONS:** N/A

**INTERNATIONAL REGULATIONS:** This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

Europium (III) chloride hexahydrate

CAS No.  
13759-92-7

**WHMIS CLASSIFICATION:** Not WHMIS controlled.

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**SECTION 15 NOTES:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

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## SECTION 16: OTHER INFORMATION

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**DISCLAIMER:** The statements contained herein are offered for informational purposes only and are based upon technical data. DVS Sciences Inc. believes them to be accurate at the date of publication, but does not purport to be all-inclusive. The above-stated product is intended for use only by persons having the necessary technical skills and facilities for handling the product at their discretion and risk. Since conditions and manner of use are outside our control, we (DVS Sciences Inc.) make no warranty of merchantability or any such warranty, express or implied with respect to information and we assume no liability resulting from the above product of its use. Users should perform their own investigations to determine suitability of information and product for their particular purposes.