

## MATERIAL SAFETY DATA SHEET

<b>Product</b>	
<b>Item #</b>	<b>Title</b>
GCE-10-Reactions	10X GC Enhancer
<b>Components</b>	
GCE-10-Reactions-PC	10X GC Enhancer

## MATERIAL SAFETY DATA SHEET

**Product Title:** 10X GC Enhancer

## SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Title:** 10X GC Enhancer  
**Item number:** GCE-10-Reactions-PC  
**Document Number:** PC-MSDS-014 Version 001  
**Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.  
**Application of the substance / the mixture** Laboratory Chemicals  
**Details of the supplier of the safety data sheet**  
Manufacturer/Supplier:  
Empirical Bioscience  
2007 Eastcastle Dr. SE  
Grand Rapids, MI 49508 U.S.A.  
1-877.479.9949  
MSDS author; customer.service@empiricalbioscience.com

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients ( <i>specific</i> )	%	CAS Number
Proprietary Reagent 1	63	

## SECTION 3 — HAZARDS IDENTIFICATION

**Classification of the substance or mixture** Classification according to the Hazard Communication Standard (HCS).  
**The product is not classified as hazardous according to the HCS regulation.**  
**Labelling according to Regulation (EC) No 1272/2008** Void  
**Hazard pictograms** Void **Signal word** Void  
**Hazard statements** Void  
**Classification system: NFPA ratings (scale 0 - 4)**  
**Health = 0**  
**Fire = 1**  
**Reactivity = 0**  
**HMIS-ratings (scale 0 - 4)**  
**Health = 0**  
**Fire = 1**  
**Reactivity = 0**  
**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** Not applicable  
**Target Organ(s):** Not applicable or unknown  
**Other hazards** This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.  
**Results of PBT and vPvB assessment**  
**PBT:** Not applicable.  
**vPvB:** Not applicable

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## SECTION 4 — FIRST AID MEASURES

**Description of first aid measures**

**General information:** No special measures required.

**After inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**After skin contact:** Wash Skin with soap and copious amounts of water

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If the person is conscious, wash out mouth with water. Call a physician.

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed** None

**Indication of any immediate medical attention and special treatment needed** No further relevant information available

## SECTION 5 — FIRE FIGHTING MEASURES

**Extinguishing media**

**Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture** None known

**Advice for firefighters** No special advice

**Protective equipment:** Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures** Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions:** Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**Reference to other sections** No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information

## SECTION 7 — HANDLING AND STORAGE

**Handling:**

**Precautions for safe handling** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

**Information about protection against explosions and fires:** The product is not flammable.

**Conditions for safe storage, including any incompatibilities** Keep container tightly closed in a dry and well-ventilated place. Hygroscopic. Light sensitive.

**Storage:**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Specific end use(s)** No further relevant information available.

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## SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

**Control parameters****Components with limit values that require monitoring at the workplace:****Proprietary Reagent 1**

Value: TWA

Control parameters: 10mg/m<sup>3</sup>

Basis: USA. Workplace Environmental Exposure Levels (WEEL)

**Additional information:****Exposure controls****Personal protective equipment:** General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.**Breathing equipment:** Not required.**Protection of hands:****Protective gloves** Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation**Material of gloves** The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.**Eye protection:** Goggles recommended during refilling.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties****General Information****Appearance:****Form:** Liquid**Color:** Colorless**Odor:** Characteristic**Odour threshold:** No data available**pH-value at 20 °C (68 °F):** No data available**Change in condition****Melting point/Melting range:** -60°C (-76 °F)**Boiling point/Boiling range:** 187 °C (369 °F)**Flash point:** 103 °C (217 °F) – closed cup**Flammability (solid, gaseous):** No data available**Ignition temperature:** No data available**Decomposition temperature:** No data available**Auto igniting:** No data available**Danger of explosion:** No data available**Explosion limits:** No data available**Lower:** 2.6% (V)**Upper:** 12.5% (V)**Vapor pressure at 20 °C (68 °F):** 0.11 hPa (0.08 mmHg)**Density at 20 °C (68 °F):** No data available**Relative density:** 1.036 g/mL at 25 °C (77 °F)**Vapour density:** 2.63 - (Air = 1.0)**Evaporation rate:** No data available**Solubility in / Miscibility with Water:** No data available**Partition coefficient (n-octanol/water):** No data available**Viscosity:** No data available**Dynamic:** No data available**Kinematic:** No data available**Solvent content:** No data available**Organic Solvents:** No data available**Water:** No data available**Solids content:** No data available**Other information:** No data available

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## SECTION 10 — STABILITY AND REACTIVITY

**Reactivity****Chemical stability**

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.

**Conditions to avoid** Exposure to moisture.

**Incompatible materials:** Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates, Reducing agents.

**Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11 — TOXICOLOGICAL INFORMATION

**Information on toxicological effects**

**Acute toxicity:** LD50 Oral - rat - 20,000 mg/kg

**LD/LC50 values that are relevant for classification:**

LD50 Dermal - rabbit - 20,800 mg/kg

LD50 Intramuscular - rat - 14 g/kg

LD50 Intravenous - dog - 26 g/kg

LD50 Intraperitoneal - rat - 6,660 mg/kg

LD50 Subcutaneous - rat - 22,500 mg/kg

LD50 Intravenous - rat - 6,423 mg/kg

LD50 Intraperitoneal - mouse - 9,718 mg/kg Remarks: Lungs, Thorax, or Respiration:Chronic pulmonary edema. Kidney, Ureter, Bladder:Changes in both tubules and glomeruli. Blood:Changes in spleen.

LD50 Subcutaneous - mouse - 17,370 mg/kg Remarks: Behavioral:Change in motor activity (specific assay). Behavioral:Muscle contraction or spasticity. Cyanosis

LD50 Intravenous - mouse - 6,630 mg/kg

LD50 Intravenous - rabbit - 6,500 mg/kg

**Primary irritant effect:**

**On the skin:** Mild Irritation

**On the eye:** Mild Irritation

**Sensitization:** No data available

**Additional toxicological information:** RTECS: TY2000000 Gastrointestinal disturbance, Nausea, Headache, Vomiting, Central nervous system depression.

**Carcinogenic categories IARC (International Agency for Research on Cancer)**

None of the ingredients are listed

**NTP (National Toxicology Program)**

None of the ingredients are listed.

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## SECTION 12 — ECOLOGICAL INFORMATION

**Toxicity****Aquatic toxicity:**

Toxicity to fish mortality NOEC - Pimephales promelas (fathead minnow) - 52,930 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates mortality NOEC - Daphnia - 13,020 mg/l - 48 h

EC50 - Daphnia magna (Water flea) - > 10,000 mg/l - 48 h

**Persistence and degradability** No data available

**Behavior in environmental systems:** No data available

**Bioaccumulative potential** No data available

**Mobility in soil.** No data available

**Ecotoxicological effects: Remark:** No data available

**Additional ecological information:** No data available

**General notes:**

**Results of PBT and vPvB assessment**

**PBT:** No data available

**vPvB:** No data available

**Other adverse effects** No further relevant information available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**Waste treatment methods**

Recommendation: Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents

## SECTION 14 — TRANSPORT INFORMATION

**UN-Number** None

**DOT, ADR, ADN, IMDG, IATA** Void

**UN proper shipping name** None

**DOT, ADR, ADN, IMDG, IATA** Void

**Transport hazard class(es)** None

**DOT, ADR, ADN, IMDG, IATA Class** Void

**Packing group** None

**DOT, ADR, IMDG, IATA** Void

**Environmental hazards:**

**Marine pollutant:** No

**Special precautions for user** Not applicable

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC** Not applicable

**UN "Model Regulation":** -

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## SECTION 15 — REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture Sara**

**Section 355 (extremely hazardous substances):** None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):** None of the ingredients are listed.

**TSCA (Toxic Substances Control Act):** All of the ingredients are listed.

Proposition 65

**Chemicals known to cause cancer:** None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:** None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:** None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:** None of the ingredients are listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)** None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)** None of the ingredients are listed.

**MAK (German Maximum Workplace Concentration)** None of the ingredients are listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)** None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration)** None of the ingredients are listed.

**National regulations:**

**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16 — OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS

Empirical Bioscience

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**Abbreviations and acronyms:**

**ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

**IMDG:** International Maritime Code for Dangerous Goods

**DOT:** US Department of Transportation

**IATA:** International Air Transport Association

**CAS:** Chemical Abstracts Service (division of the American Chemical Society)

**NFPA:** National Fire Protection Association (USA)

**HMIS:** Hazardous Materials Identification System (USA)

**LC50:** Lethal concentration, 50 percent

**LD50:** Lethal dose, 50

\* Data compared to the previous version altered.