SAFETY DATA SHEET

Section 1: Identification

Product identifier

Product name: X-BACS™ Buffer, Bottle, 125mL
Product No.: 60391

Recommended use and restriction on use

Recommended use: General Laboratory Reagent.
Restrictions on use: Intended for further manufacturing applications or laboratory use only.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer
Company Name: ThermoGenesis Corp.
Address: 2711 Citrus Road
Rancho Cordova, CA 95742
Telephone: 1 916 858 5100 or 1 800 783 8357
Fax:
Contact: Customer Service
E-mail: customerservice@thermogenesis.com
Emergency telephone number: 1 916 549 6362

Section 2: Hazard(s) Identification

Hazard Classification
Not a hazardous substance or mixture.

Label Elements

Hazard Symbol: Not applicable.
Signal Word: Not applicable.
Hazard Statement: Not a hazardous substance or mixture.
Precautionary Statements
None.

Other hazards which do not result in GHS classification: None.
### Section 3: Composition/Information on Ingredients

#### Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Common name and synonyms</th>
<th>EC number</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water for Injection</td>
<td></td>
<td>231-791-2</td>
<td>7732-18-5</td>
<td>98.87%</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td></td>
<td>231-598-3</td>
<td>7647-14-5</td>
<td>0.80%</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td>231-211-8</td>
<td>7447-40-7</td>
<td>0.02%</td>
</tr>
<tr>
<td>Ethylenediaminetetraacetic acid, disodium salt dihydrate</td>
<td></td>
<td>205-358-3</td>
<td>6381-92-6</td>
<td>0.07%</td>
</tr>
<tr>
<td>Potassium Phosphate monobasic (KH2PO4)</td>
<td></td>
<td>231-913-4</td>
<td>7778-77-0</td>
<td>0.02%</td>
</tr>
<tr>
<td>Sodium Phosphate dibasic (Na2HPO4·7H2O)</td>
<td></td>
<td>231-448-7</td>
<td>7782-85-6</td>
<td>0.22%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### Section 4: First-aid Measures

**General information:**
Get medical attention if symptoms occur.

**Ingestion:**
Do not induce vomiting. If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration.

**Inhalation:**
Call a poison center or doctor if you feel unwell.

**Skin Contact:**
Wash with plenty of soap and water for at least 15 minutes. Call a poison center or doctor if you feel unwell.

**Eye contact:**
Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
Most important symptoms/effects, acute and delayed

**Symptoms:**
The most important known symptoms and effects are described in the labeling.

Indication of immediate medical attention and special treatment needed

**Treatment:**
No data available.

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**Section 5: Fire-fighting Measures**

**General Fire Hazards:**
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water spray to keep fire-exposed containers cool.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:**
Small Fire: Dry chemical, CO2 or water spray.
Large Fire: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material.

**Unsuitable extinguishing media:**
Not applicable.

**Specific hazards arising from the chemical:**
No data available.

**Flammability of the Product:**
Non-flammable.

**Auto-Ignition Temperature:**
Not applicable.

**Flash Points:**
Not applicable.

**Flammable Limits:**
Not applicable.

**Products of Combustion:**
Non-combustible.

**Fire Hazards in Presence of Various Substances:**
Not available.
Explosion Hazards in Presence of Various Substances: Not applicable.

Special protective equipment and precautions for firefighters

Special firefighting procedures: No unusual fire or explosion hazards noted.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Contact local authorities in case of spillage to drain/aquatic environment. See Section 8 of the SDS for Personal Protective Equipment. As an immediate precautionary measure, isolate spill or leak area in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

Methods and material for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Environmental Precautions: Avoid release to the environment.

Section 7: Handling and Storage

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

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
</table>

**Appropriate Engineering Controls:**
- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.

**Individual protection measures, such as personal protective equipment**

**General information:**
- Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.
- Routinely wash work clothing to remove contaminants.

**Eye/face protection:**
- Safety glasses if there is a splash hazard. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin Protection**

**Hand Protection:**
- Chemical resistant gloves Suitable gloves can be recommended by the glove supplier. Wash hands after contact.

**Body Protection:**
- Wear protective clothing.

**Other:**

**Respiratory Protection:**
- Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hygiene Measures:**
- Observe good industrial hygiene practices.

**Thermal Hazards:**
- No data available.

**Environmental Exposure Controls:**
- Do not let product enter drains.
Section 9: Physical and Chemical Properties

Appearance

Physical state: Liquid
Form: Liquid
Color: Clear
Odor: Odorless
Odor threshold: No data available.
pH: 7.2
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.
Vapor pressure: No data available.
Vapor density: No data available.
Relative density: No data available.

Solubility(ies)

Solubility in water: Miscible.
Solubility (other): Miscible.

Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

Section 10: Stability and Reactivity

Reactivity: No data available.
Chemical Stability: Stable under normal conditions.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Incompatible Materials: No data available.

Hazardous Decomposition Products: No data available.

Section 11: Toxicological Information

General information: See below.

Information on likely routes of exposure
Ingestion: Likely Route.

Inhalation: Likely Route.

Skin Contact: Likely Route.

Eye contact: Likely Route.

Symptoms related to the physical, chemical and toxicological characteristics

- **Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

- **Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

- **Skin Contact:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

- **Eye contact:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

- **Oral Product:** No data available.

- **Dermal Product:** No data available.

- **Inhalation Product:** No data available.

ThermoGenesis Corp.
Repeated dose toxicity

Product: Not applicable.

Skin Corrosion/Irritation

Product: May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Serious Eye Damage/Eye Irritation

Product: May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. 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.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

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

US. National Toxicology Program (NTP) Report on Carcinogens:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.


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

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.
Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Summary of evaluation of the CMR properties:
STOT-single exposure: No data available.
STOT-repeated exposure: No data available.
Aspiration hazard: No data available.

Section 12: Ecological Information

Ecotoxicity:

Acute hazards to the aquatic environment:
Fish
Product: No negative effects on the aquatic environment are known.

Aquatic Invertebrates
Product: No negative effects on the aquatic environment are known.

Chronic hazards to the aquatic environment:
Fish
Product: No negative effects on the aquatic environment are known.

Aquatic Invertebrates
Product: No negative effects on the aquatic environment are known.

Toxicity to Aquatic Plants
Product: No negative effects on the aquatic environment are known.

Persistence and Degradability

Biodegradation
Product: Expected to be readily biodegradable.

BOD/COD Ratio
Product: No data available.
Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments
No data available.

Other adverse effects: No data available.

Results of PBT and vPvB assessment:
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Section 13: Disposal Considerations

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal instructions: Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Contaminated Packaging: Dispose of as unused product.

Section 14: Transport Information

DOT UN Number: Not dangerous goods.

UN Proper Shipping Name: Not regulated.

Transport Hazard Class(es) Class: Not regulated.

Label(s): Not regulated.

Packing Group: Not regulated.

Marine Pollutant: Not regulated.

Limited quantity Not regulated.

Excepted quantity Not regulated.

Special precautions for user: Not regulated.
IMDG
- UN Number: Not regulated.
- UN Proper Shipping Name: Not regulated.
  - Class: Not regulated.
  - Subsidiary risk: Not regulated.
  - EmS No.: Not regulated.
- Packing Group: Not regulated.
- Environmental Hazards:
  - Marine Pollutant: Not regulated.
  - Special precautions for user: Not regulated.

IATA
- UN Number: Not regulated.
- Proper Shipping Name: Not regulated.
  - Class: Not regulated.
  - Subsidiary risk: Not regulated.
  - Packing Group: Not regulated.
- Environmental Hazards:
  - Marine pollutant: Not regulated.
  - Special precautions for user: Not regulated.

15. Regulatory Information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
SARA 302 Extremely Hazardous Substance

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable Quantity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable Quantity</th>
</tr>
</thead>
</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>No SARA Hazards.</td>
<td></td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

US State Regulations

US. California Proposition 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

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<tr>
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<tbody>
<tr>
<td>Sodium monohydrogen phosphate, heptahydrate, CAS-No. 7782-85-6</td>
</tr>
<tr>
<td>Edetate disodium dihydrate, CAS-No. 6381-92-6</td>
</tr>
</tbody>
</table>

US. Massachusetts RTK - Substance List

<table>
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<th>Chemical Identity</th>
</tr>
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<tbody>
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<td>Sodium monohydrogen phosphate, heptahydrate, CAS-No. 7782-85-6</td>
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</table>

US. Pennsylvania RTK - Hazardous Substances

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium monohydrogen phosphate, heptahydrate, CAS-No. 7782-85-6</td>
</tr>
<tr>
<td>Edetate disodium dihydrate, CAS-No. 6381-92-6</td>
</tr>
</tbody>
</table>

US. Rhode Island RTK
16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Issue Date:</th>
<th>03/21/2019</th>
</tr>
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<tbody>
<tr>
<td>Revision:</td>
<td>A</td>
</tr>
<tr>
<td>Revision Information:</td>
<td>Not applicable.</td>
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<tr>
<td>Source of information:</td>
<td>Manufacturer.</td>
</tr>
<tr>
<td>Further Information:</td>
<td>No data available.</td>
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