1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Diluent/Blocking Solution Concentrate (Sample)</td>
<td>SPL-MILK</td>
</tr>
<tr>
<td>Milk Diluent/Blocking Solution Concentrate</td>
<td>50-82-02</td>
</tr>
<tr>
<td>Milk Diluent/Blocking Solution Concentrate</td>
<td>50-82-01</td>
</tr>
<tr>
<td>Milk Diluent/Blocking Solution Concentrate</td>
<td>50-82-00</td>
</tr>
</tbody>
</table>

Hazardous Reagent
Milk Diluent/Blocking Solution Concentrate

Hazardous Reagent Product code
Catalog No. listed above

Recommended Use
Reagent

Contact Manufacturer
KPL, Inc.
910 Clopper Road
Gaithersburg, Maryland 20878
USA

Emergency Telephone Numbers:
AUSTRALIA – POISONS INFORMATION CENTER
Telephone: 13 11 26 Hours: 24 hours

CANADIAN TRANSPORT EMERGENCY CENTER
Telephone: (1 ) 613 996 6666 Hours: 24 hours/day, 7 days/week

UK – THE NATIONAL FOCUS
Telephone: (44) 029 2041 6388 Hours: 09:00-17:00 GMT

USA - NATIONAL RESPONSE CENTER
Telephone: (1 ) 800 424 8802 Hours: 24 hours/day, 7 days/week

CHEMTREC:
CHEMTREC Customer Number:- CCN12505*
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN12505 or
+1 703-527-3887 (collect calls accepted)

2. HAZARD IDENTIFICATION

Hazard Type
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment.

Classification
See Section 15 for Concentration Limits. The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment as per:
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Regulation (EC) No 1272/2008

Hazard Statement
H360FD: May damage fertility. May damage the unborn child.

Precautionary Statement
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.

Symbols of Danger
GHS08; Dgr - Danger
Data for 100% Hazardous Chemical

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CHEMICAL</th>
<th>% Weight</th>
<th>CAS #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Diluent/Blocking Solution</td>
<td>GLYCEROL</td>
<td>50%</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Concentrate</td>
<td>Disodium Tetraborate</td>
<td>&lt;4%</td>
<td>1303-96-4</td>
</tr>
<tr>
<td></td>
<td>Decahydrate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classification

See Section 15 for Concentration Limits. The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment as per:

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Regulation (EC) No 1272/2008

4. FIRST AID MEASURES

Data for 100% Hazardous Chemical

Ingestion First Aid: Rinse mouth. Refer for medical attention.
Inhalation First Aid: Fresh air, rest. Half-upright position. Artificial respiration if indicated.
Skin First Aid: First rinse with plenty of water, then remove contaminated clothes and rinse again.
Eye First Aid: First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

5. FIRE FIGHTING MEASURES

Data For 100% Hazardous Chemical

The product is a Mixture. It May Cause the following symptoms.

EYES: Redness. Pain.

May cause redness and irritation
Dry skin.
Data for 100% Glycerol: Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly on spraying.
Diarrhoea.
**Fire Acute Hazard:** Not combustible.

**Fire Prevention:** Not Available

**Fire Fighting:** In case of fire in the surroundings: all extinguishing agents allowed.

**Explosion Acute Hazard:** Not Available

**CHEMICAL DANGERS:** The substance is a weak base.

**WHITE CRYSTALS OR CRYSTALLINE POWDER.**

**PHYSICAL DANGERS:**

---

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**

Respiratory protection:
In an emergency (e.g.: unintentional release of the substance, exceeding the occupational exposure limit value) respiratory protection must be worn. Consider the maximum period for wear.
Respiratory protection: Particle filter P2 or P3, colour code white.
Use insulating device for concentrations above the usage limits for filter devices, for oxygen concentrations below 17% volume, or in circumstances which are unclear.

Eye protection:
Sufficient eye protection should be worn.
Wear glasses with side protection.

Hand protection:
Use protective gloves. The glove material must be sufficiently impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location. Pay attention to skin care.
Skin protection cremes do not protect sufficiently against the substance.
The following information is valid for aqueous, saturated solutions of the substance.
The following materials are suitable for protective gloves (Permeation time >= 8 hours):
Natural rubber/Natural latex - NR (0,5 mm) (use non-powdered and allergen free products)
Polychloroprene - CR (0,5 mm)
Nitrile rubber/Nitrile latex - NBR (0,35 mm)
Butyl rubber - Butyl (0,5 mm)
Fluoro carbon rubber - FKM (0,4 mm)
Polyvinyl chloride - PVC (0,5 mm)

The times listed are suggested by measurements taken at 22 °C and constant contact. Temperatures raised by warmed substances, body heat, etc. and a weakening of the effective layer thickness caused by expansion can lead to a significantly shorter breakthrough time. In case of doubt contact the gloves' manufacturer. A 1.5-times increase / decrease in the layer thickness doubles / halves the breakthrough time. This data only applies to the pure substance. Transferred to mixtures of substances, these figures should only be taken as an aid to orientation.

**Environmental Precautions** Not Applicable

**Method of Containment** Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place.

**Methods of Clean-up** Clean-up with copious amounts of water.

**Other Information** Not Applicable

---

**Data for 100% Hazardous Chemical**

**SPILLAGE DISPOSAL** Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. (Extra personal protection: P2 filter respirator for harmful particles).
7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice.

Storage: Separated from strong oxidants. Store at 4°C, indoors, refrigerated.

Data for 100% Hazardous Chemical

STORAGE Separated from acids.

8. EXPOSURE CONTROL

Data for 100% Hazardous Chemical

• INHALATION Local exhaust or breathing protection.

• EYES Safety goggles, or eye protection in combination with breathing protection if powder.

• SKIN Protective gloves.

• INGESTION Do not eat, drink, or smoke during work.

Engineering Controls Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear to slightly opalescent solution.

Physical State Liquid pH: Not Applicable

Data for 100% Hazardous Chemical

Boiling point: °C Melting point: 75°C

Relative density (water = 1): 1.7

Solubility in water.
g/100 ml at 20°C: 5.1

10. STABILITY AND REACTIVITY

Chemical Stability Stable

Incompatibility Materials to Avoid

Data for 100% Disodium Tetraborate Decahydrate: The substance can react dangerously with:

strong oxidizing agents, acids, moisture/water, metal salts

Hazardous Decomposition Products

Carbon Monoxide, Carbon Dioxide, boron oxide, sodium oxide, metaboric acid.

Hazardous Polymerization Will not occur

Data for 100% Hazardous Chemical

CHEMICAL DANGERS: The substance is a weak base.

WHITE CRYSTALS OR CRYSTALLINE POWDER. PHYSICAL DANGERS:

11. TOXICOLOGY MEASURES

Acute Toxicity

The toxicological risks are minor due to the low concentration of hazardous ingredients. The following toxicological information is for the hazardous ingredient in pure form.

LD50 Oral

Data for 100% Boric Acid: LD50 oral rat Value: 2660 mg/kg
1.28, Pg. 266, 1945.


LD50 Dermal

Data for 100% Glycerol: LD50 dermal rat/rabbit: > 10000 mg/kg

LC50 Inhalation

Data for 100% Boric Acid: LC50 Fish (96 hours)
Minimum: 79 mg/l
Maximum: 5600 mg/l
Median: 487 mg/l
Study number: 14
Reference for median:

LC50 Crustaceans (48 hours)
Minimum: 133 mg/l
Maximum: 226 mg/l
Median: 180 mg/l
Study number: 2
Reference for median:

Chronic Toxicity

Carcinogenicity  Not Available
Irritation  No Data Available
Corrosivity  Not Available
Sensitization  Not Available
Neurological Effects  Not Available
Mutagenic Effects  Not Available
Reproductive Effects  Data for Boric Acid at Concentrations > 5.5% H360FD: May damage fertility. May damage the unborn child.
Developmental Effects  Data for Boric Acid at Concentrations > 5.5% H360FD: May damage fertility. May damage the unborn child.
Target Organ Effects  Respiratory Tract, Skin and Gastrointestinal Tract
Other adverse effects  Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity
Data for 100% Glycerol: Toxicity threshold (cell multiplication inhibition test) Algae (Microcystis aeruginosa) 2900 mg/l ; Protozoa (Entosiphan sulcatum) 3200 mg/l ; LC50 Goldfish >5000 mg/l/24 hr - modified ASTM D 1345 [Verschueren, K. Handbook of Environmental Data of Organic Chemicals. 2nd ed. New York, NY: Van Nostrand Reinhold Co., 1983., p. 695]

Persistence/Degradability  Data for 100% Glycerol: Readily biodegradable

Mobility in Environmental Media  Data for 100% Glycerol: Very high mobility in soil [Swann RL et al; Res Rev 85: 17-28 (1983)]
13. DISPOSAL MEASURES

Waste Disposal Method: Observe all Federal, State and Local laws concerning health and pollution.

Contaminated Packaging: Avoid contact with skin and clothing. Place contaminated packaging in a break proof outer vessel and dispose on in compliance with national and local regulations.

US EPA Waste Number: Not Available

14. TRANSPORTATION MEASURES

DOT: Not Available
IATA: Not Available
ADR (road)/ RID (rail): Not Available
IMDG (sea): Not Available

General Transport Regulations Not Applicable

15. REGULATORY MEASURES

This product is a mixture that may contain one or more hazardous chemicals. The hazardous ingredients listed are only those as required by 29 CFR 1910.1200 (OSHA HCS).

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains no chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (See 40 CFR 61)
This product contains no chemical or chemicals which are subject to the reporting requirements of the Clean Air Act, Section 112 HAPS

State Regulations
California Proposition 65:
This product contains the following Proposition 65 chemicals: None Listed

State Right to Know Act

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>GLYCEROL</th>
<th>Disodium Tetraborate Decahydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>New York</td>
<td>Not Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>GLYCEROL</th>
<th>Disodium Tetraborate Decahydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>DSL</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>NDSL</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>EINECS</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>CHINA</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>KECL</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>JAPAN:</td>
<td>Listed</td>
<td>Listed</td>
</tr>
</tbody>
</table>
### EU Regulations

<table>
<thead>
<tr>
<th>EU Regulations</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annex I Index#</strong></td>
<td>Annex I Index# : 005-011-01-1</td>
</tr>
<tr>
<td><strong>Substance Name</strong></td>
<td>in Annex 1 : disodium tetraborate decahydrate ; borax decahydrate</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td>See Section 15 for Concentration Limits. The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment as per: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td><strong>Risk Phrases</strong></td>
<td>Repr. 1B; H360FD: May damage fertility. May damage the unborn child.</td>
</tr>
<tr>
<td><strong>Safety Phrases</strong></td>
<td>P201: Obtain special instructions before use.</td>
</tr>
<tr>
<td></td>
<td>P202: Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td></td>
<td>P281: Use personal protective equipment as required.</td>
</tr>
<tr>
<td><strong>Symbols and Indications of Danger</strong></td>
<td>GHS08; Dgr - Danger</td>
</tr>
<tr>
<td><strong>Specific Concentration Limits</strong></td>
<td>Repr. 1B; H360FD: C ≥ 8.5 %</td>
</tr>
<tr>
<td><strong>Export and Import</strong></td>
<td>Not available for this substance.</td>
</tr>
<tr>
<td><strong>European Priority List</strong></td>
<td>Not available for this substance.</td>
</tr>
</tbody>
</table>

### 16. OTHER INFORMATION

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. KPL shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. This material is sold for research purposes and is intended as laboratory reagents only. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

**Revision Date:** 9/16/2014