1. Product and Company Identification

Material name: Glucose Standards - all concentrations
Version #: 02
Issue date: 07-12-2013
Revision date: 07-12-2013
Supersedes date: 07-12-2013
CAS #: Mixture
Synonym(s): 1531 Glucose Standard 50 mmol/L * 2355 Glucose Standard 200 mg/dL * 2356 Glucose Standard 500 mg/dL * 2367 Glucose Standard 10 mmol/L * 2368 Glucose Standard 25 mmol/L * 2714 Glucose Standard 100 mg/dL * 2715 Glucose Standard 400 mg/dL * 2716 Glucose Standard 700 mg/dL * 2801 Glucose Standard 50 mg/dL

Manufacturer:
YSI, Inc.
1700/1725 Brannum Lane
Yellow Springs, Ohio 45387 United States
MSDSinfo@ysi.com
(937) 767-7241
CHEMTREC (US/Canada) (800) 424-9300
CHEMTREC (International) 001 703-527-3887
(Collect calls accepted)

2. Hazards Identification

Emergency overview: Health injuries are not known or expected under normal use.

Potential health effects:
- **Routes of exposure**
  - Inhalation: Skin contact.
- **Eyes**
  - Direct contact with eyes may cause temporary irritation.
- **Skin**
  - No adverse effects due to skin contact are expected. May be slightly irritating to skin and eyes.
- **Inhalation**
  - No adverse effects due to inhalation are expected. High mist concentrations may cause irritation of respiratory tract.
- **Ingestion**
  - Expected to be a low ingestion hazard. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Signs and symptoms:
- No specific hazard known. May cause transient irritation.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>50-99-7</td>
<td>&lt;1</td>
</tr>
<tr>
<td>EDTA</td>
<td>25102-12-9</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Sodium Benzoate</td>
<td>532-32-1</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt;97</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures:
- **Eye contact**
  - Rinse with water. Get medical attention if irritation develops and persists.
- **Skin contact**
  - Wash off with soap and water. Get medical attention if irritation develops and persists.
- **Inhalation**
  - Move to fresh air. Call a physician if symptoms develop or persist.
- **Ingestion**
  - Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
- **General advice**
  - If you feel unwell, seek medical advice (show the label where possible).
5. Fire Fighting Measures
Flammable properties
Not flammable by WHMIS criteria.
Extinguishing media
Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.
Protection of firefighters
Protective equipment for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.
Explosion data
Sensitivity to static discharge
Not available.
Sensitivity to mechanical impact
Not available.

6. Accidental Release Measures
Personal precautions
Wear appropriate protective equipment and clothing during clean-up.
Environmental precautions
Avoid discharge into drains, water courses or onto the ground.
Methods for cleaning up
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Other information
Never return spills in original containers for re-use.

Clean up in accordance with all applicable regulations.

7. Handling and Storage
Handling
Observe good industrial hygiene practices.
Storage
Store away from incompatible materials.

8. Exposure Controls / Personal Protection
Occupational exposure limits
No exposure limits noted for ingredient(s).
Engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment
Eye / face protection
If contact is likely, safety glasses with side shields are recommended.
Skin protection
Wear suitable protective clothing. Apron and long sleeves are recommended. Boots. For prolonged or repeated skin contact use suitable protective gloves.
Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

9. Physical & Chemical Properties
Appearance
Not available.
Physical state
Liquid.
Form
Liquid.
Color
Clear. Colorless.
Odor
Odorless.
Odor threshold
Not available.
P pH
6.5 - 7.5
Vapor pressure  Equivalent to water
Vapor density  \( = \) water vapor
Boiling point  212 °F (100 °C)
Melting point/Freezing point  Not available.
Solubility (water)  Infinitely soluble.
Specific gravity  1
Relative density  Not available.
Flash point  Not available.
Flammability limits in air, upper, \% by volume  Not available.
Flammability limits in air, lower, \% by volume  Not available.
Auto-ignition temperature  Not available.

Other data
Explosive properties  Not available.
Flammability (solid, gas)  Not applicable.
Oxidizing properties  Not available.

10. Chemical Stability & Reactivity Information
Chemical stability  Material is stable under normal conditions.
Conditions to avoid  Contact with incompatible materials.
Incompatible materials  Strong oxidizing agents.
Hazardous decomposition products  No hazardous decomposition products are known.
Possibility of hazardous reactions  No dangerous reaction known under conditions of normal use.

11. Toxicological Information
Acute effects  Expected to be a low hazard for usual industrial or commercial handling by trained personnel.
Local effects  High mist concentrations may cause irritation of respiratory tract. May cause temporary irritation on skin or eye contact.
Chronic effects  Not expected to be hazardous by WHMIS criteria.
Carcinogenicity  This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Mutagenicity  No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive effects  This product is not expected to cause reproductive or developmental effects.
Symptoms and target organs  No specific hazard known. May cause transient irritation.
Further information  This product has no known adverse effect on human health.

12. Ecological Information
Ecotoxicity  The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability  No data is available on the degradability of this product.
Bioaccumulation / Accumulation  No data available.
Partition coefficient
\[ \text{Glucose} \rightarrow -3.24 \]
Mobility in environmental media  No data available.

13. Disposal Considerations
Disposal instructions  Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
14. Transport Information

TDG
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status
Non-controlled

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS® ratings
Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 0
Flammability: 0
Instability: 0

Disclaimer
The information in the sheet was written based on the best knowledge and experience currently available.