MATERIAL SAFETY DATA SHEET

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 information

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

Hazardous components	CAS #	Percent
Glucose	50-99-7	<1
EDTA	25102-12-9	<1
Sodium Benzoate	532-32-1	<1
Non-hazardous components	**CAS #**	**Percent**
Water	7732-18-5	>97

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.

Never return spills in original containers for re-use.

Other information 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.

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	
Glucose	-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.

Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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

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

*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.