

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**GHS product identifier****Product Name** S1 Digestion Buffer**Other means of identification****Product Code(s)** 10163200, 10178500, 10174300, 10290900, 10290800, 10291000**Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** General Laboratory Use**Uses advised against** No information available**Supplier's details****Supplier Address**HTG Molecular Diagnostics Inc.
3430 E. Global Loop
Tucson, AZ 85706
TEL: (520) 547-2827
FAX: (520) 547-2837**Emergency telephone number****Emergency Telephone** CHEMTREC: 1-800-424-9300 for US/ 703-527-3887 outside US **Number****2. HAZARDS IDENTIFICATION****Classification**

This chemical is not considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

Not classified

GHS Label elements, including precautionary statements**Emergency Overview****Signal Word** None

The product contains no substances which at their given concentration are considered to be hazardous to health
Appearance Clear, Colorless **Physical State** Liquid. **Odor** Odorless

Precautionary Statements**Prevention**

· None

General Advice

· None

Storage

· None

Disposal

· None

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

May cause allergic reactions in susceptible individuals.

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Glycerol	56-81-5	1-5	*
Zinc sulfate	7733-02-0	0.1-1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**Description of necessary first-aid measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists, call a physician.

Skin Contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation

Move to fresh air. If symptoms persist, call a physician.

Ingestion

Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed**Most Important Symptoms/Effects** No information available.**Indication of immediate medical attention and special treatment needed, if necessary****Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None. **Sensitivity to Static Discharge** None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Environmental Precautions Avoid release to the environment. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH

Glycerol 56-81-5	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-
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Appropriate engineering controls

Engineering Measures	Showers Eyewash stations Ventilation systems
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Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Protective gloves.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Appearance	Clear, Colorless	Odor Threshold	
Odor	Odorless		No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
pH	No data available	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	No data available	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	No data available.	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known
Flammable Properties	Not flammable	

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%)

No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Inhalation	There is no data available for this product.
Eye Contact	There is no data available for this product.
Skin Contact	There is no data available for this product.
Ingestion	There is no data available for this product.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization	Repeated or prolonged contact may cause allergic reactions in very susceptible persons
Mutagenic Effects	No information available.
Carcinogenicity	Contains no ingredients above reportable quantities listed as a carcinogen.
Reproductive Toxicity	No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration Hazard No information available.

Numerical measures of toxicity - Product

The following values are calculated based on chapter 3.1 of the GHS document:

LD50 Oral 21224 mg/kg; Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Glycerol 56-81-5		LC50 96 h: 51 - 57 mL/L static (Oncorhynchus mykiss)		EC50 24 h: > 500 mg/L (Daphnia magna)
Zinc sulfate 7733-02-0	EC50 72 h: = 0.056 mg/L static (Pseudokirchneriella subcapitata) EC50 96 h: = 2.4 mg/L (Chlorella vulgaris) EC50 72 h: = 64.8 mg/L (Chlorella vulgaris)	LC50 96 h: 0.03-0.05 mg/L semi-static (Oncorhynchus mykiss) LC50 96 h: 0.168-0.25 mg/L semi-static (Pimephales promelas) LC50 96 h: 0.218-0.42 mg/L flow-through (Pimephales promelas) LC50 96 h: 0.23-0.48 mg/L (Pimephales promelas) LC50 96 h: 0.34-0.93 mg/L static (Oncorhynchus mykiss) LC50 96 h: 0.48-1.72 mg/L static (Poecilia reticulata) LC50 96 h: 16.85-27.18 mg/L static (Cyprinus carpio) LC50 96 h: 3-4.6 mg/L flow-through (Lepomis macrochirus) LC50 96 h: 3.55-6.32 mg/L static (Lepomis macrochirus) LC50 96 h: 49.23-64.16 mg/L semi-static (Poecilia reticulata) LC50 96 h: = 0.06 mg/L static (Pimephales promelas) LC50 96 h: = 0.15 mg/L semi-static (Cyprinus carpio) LC50 96 h: = 0.162 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 0.63 mg/L (Poecilia reticulata)	EC50 = 3.45 mg/L 15 min EC50 = 40.5 mg/L 30 min EC50 = 476 mg/L 5 min EC50 > 700 mg/L 16 h	EC50 48 h: 0.538 - 0.908 mg/L Static (Daphnia magna) EC50 48 h: = 0.75 mg/L (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

Chemical Name	Log Pow
Glycerol	-1.76

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging

Do not re-use empty containers.

14. TRANSPORT INFORMATION**DOT** Not regulated**TDG** Not regulated**MEX** Not regulated**ICAO** Not regulated**IATA** Not regulated**IMDG/IMO** Not regulated**RID** Not regulated**ADR** Not regulated**ADN** Not regulated**15. REGULATORY INFORMATION****International Inventories**

TSCA This product contains ingredients which are not listed on the TSCA Inventory. It is for research and development purposes only.

DSL Not listed

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc sulfate	1000 lb	X		X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Zinc sulfate	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Glycerol	X	X			X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	Health Hazard 0	Flammability 0	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazard 0	Flammability 0	Physical Hazard 0	Personal Protection X

Prepared By

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Latham, NY 12110
1-800-572-6501

Revision Date

03-Jul-2014

Revision Note

No information available.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet