

SECTION 1: IDENTIFICATION
1.1. Product Identifier

Product Form: Mixture
Product Name: Cell Lysis Buffer
Product Code: MLD506A

1.2. Intended Use of the Product

Use of the Substance/Mixture: For Laboratory Use

1.3. Name, Address, and Telephone of the Responsible Party

Company
 Molecular Designs, LLC
 2 Perimeter Park South
 Birmingham, AL 35243
 1-240-793-3660

www.moleculardesigns.com
jseth@moleculardesigns.com

1.4. Emergency Telephone Number

Emergency Number : Call VelocityEHS for emergency support 24/7/365
 (800)255-3924 (North America)
 +1 (813)248-0585 (International)

SECTION 2: HAZARDS IDENTIFICATION
2.1. Classification of the Substance or Mixture
GHS-US Classification

Acute toxicity (oral) Category 4	H302
Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 2A	H319
Hazardous to the aquatic environment - Acute Hazard Category 3	H402

2.2. Label Elements
GHS-US Labeling

Hazard Pictograms (GHS-US) :



GHS07

Signal Word (GHS-US) :

Warning

Hazard Statements (GHS-US) :

H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H402 - Harmful to aquatic life.

Precautionary Statements (GHS-US) :

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves, protective clothing, and eye protection.
 P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
 P302+P352 - If on skin: Wash with plenty of water.
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P321 - Specific treatment (see section 4 on this SDS).
 P330 - Rinse mouth.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

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2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	%	GHS US classification
Urea	Carbamide / Carbonyl diamide / UREA / Carbonic acid diamide	(CAS-No.) 57-13-6	25 – 50	Combustible Dust
Guanidine, hydrochloride (1:1)	Guanidine hydrochloride / Aminoformamidine hydrochloride / Aminomethanamidine hydrochloride / Carbamidine hydrochloride / Guanidine chloride / Guanidine, monohydrochloride / Guanidinium chloride / Guanidinium hydrochloride / Iminourea hydrochloride / USAF EK-749 / GUANIDINE HCL / Guanidine monohydrochloride / Guanadine hydrochloride / guanidine hydrochloride / Salt of hydrogen chloride and guanidine (1:1)	(CAS-No.) 50-01-1	38.212	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Sodium lauryl sulfate (Surfactant)	Dodecyl sodium sulfate / Dodecyl sulfate, sodium / Dodecyl sulfate, sodium salt / Sodium dodecyl sulfate / Sodium dodecyl sulphate / Sodium lauryl sulphate / Sodium monododecyl sulfate / Sodium monolauryl sulfate / Sodium n-dodecyl sulfate / Sulfuric acid, monododecyl ester, sodium salt / Dodecyl sodium sulphate / Sulfuric acid monododecyl ester sodium salt (1:1) / Carsonol SLS special / SODIUM LAURYL SULFATE / Dodecylsulphuric acid, sodium salt / Dodecyl sulphate sodium / Sodium dodecan-1-yl sulfate	(CAS-No.) 151-21-3	1 – 5	Flam. Sol. 2, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 3, H412 Combustible Dust

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If product is biologically contaminated, follow all institutional protocols concerning the potential release of pathogens.

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

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Symptoms/Injuries After Ingestion: This material is harmful orally and can cause adverse health effects or death in significant amounts.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Nitrogen oxides. Sodium oxides. Chlorine compounds. Ammonia. Hydrogen chloride.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Avoid breathing (vapor, mist, spray). If product is biologically contaminated, follow all institutional protocols concerning the potential release of pathogens.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Spilled material may present a slipping hazard.

Precautions for Safe Handling: Avoid breathing vapors, mist, spray. Do not get in eyes, on skin, or on clothing. Handle empty containers with care because they may still present a hazard. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from extremely high or low temperatures and incompatible materials. Protect from light.

Incompatible Materials: Strong acids, strong bases, strong oxidizers.

Storage Temperature: ≥ -20 °C (-4 °F)

7.3. Specific End Use(s)

For Laboratory Use

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Urea (57-13-6)		
USA AIHA	WEEL TWA	10 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles or glasses.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear protective gloves.

Eye and Face Protection

: Chemical safety goggles or safety glasses with side shields.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colorless
Odor	: Not specified
Odor Threshold	: No data available
pH	: 6.4 at 20 °C (68 °F)
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: 100 °C (212 °F)
Flash Point	: 149 °C (300.2 °F)
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Density	: 1.24757 g/cm ³ (10.41097 lbs/gal)
Solubility	: Water: Fully miscible
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

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10.4. Conditions to Avoid

Extremely high or low temperatures and incompatible materials. Protect from light.

10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers.

10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO₂). Nitrogen oxides. Sodium oxides. Chlorine compounds. Ammonia. Hydrogen chloride.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity (Oral): Harmful if swallowed.

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

Cell Lysis Buffer	
ATE (Oral)	1,185.84 mg/kg body weight
Guanidine, hydrochloride (1:1) (50-01-1)	
LD50 Oral Rat	475 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	7.655 mg/l/4h
LC50 Inhalation Rat	3.181 – 7.655 mg/l/4h
Urea (57-13-6)	
LD50 Oral Rat	8471 mg/kg
Sodium lauryl sulfate (151-21-3)	
LD50 Oral Rat	1288 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	> 3900 mg/m ³ (Exposure time: 1 h)

Skin Corrosion/Irritation: Causes skin irritation.

pH: 6.4 at 20 °C (68 °F)

Serious Eye Damage/Irritation: Causes serious eye irritation. (Data indicate that sodium lauryl sulfate does not cause irreversible eye damage a concentrations less than 20%.)

pH: 6.4 at 20 °C (68 °F)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: This material is harmful orally and can cause adverse health effects or death in significant amounts.

Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life.

Urea (57-13-6)	
LC50 Fish 1	16200 – 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)
EC50 - Crustacea [1]	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Sodium lauryl sulfate (151-21-3)	
LC50 Fish 1	8 (8 – 12.5) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [1]	1.8 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	15 (15 – 18.9) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
NOEC Chronic Crustacea	0.88 mg/l

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12.2. Persistence and Degradability

Cell Lysis Buffer	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Cell Lysis Buffer	
Bioaccumulative Potential	Not established.
Guanidine, hydrochloride (1:1) (50-01-1)	
Partition coefficient n-octanol/water (Log Pow)	< -1.7 at 20 °C (at pH 7.4)
Urea (57-13-6)	
BCF Fish 1	(10 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	< -1.73 (at 22 °C)
Sodium lauryl sulfate (151-21-3)	
BCF Fish 1	(will not bioconcentrate)
Partition coefficient n-octanol/water (Log Pow)	1.6

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Treatment Methods: Product contaminated with biological materials should preferably be incinerated.

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Not regulated for transport

14.2. In Accordance with IMDG

Not regulated for transport

14.3. In Accordance with IATA

Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Cell Lysis Buffer	
SARA Section 311/312 Hazard Classes	Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Acute toxicity (any route of exposure)
Guanidine, hydrochloride (1:1) (50-01-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Urea (57-13-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Sodium lauryl sulfate (151-21-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	

15.2. US State Regulations

Neither this product nor its chemical components appear on any US state lists, or its chemical components are not required to be disclosed

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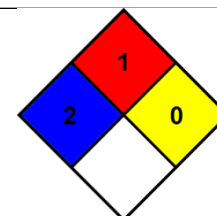
SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 03/24/2023
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases:

H228	Flammable solid
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA Fire Hazard : 1 - Materials that must be preheated before ignition can occur.
NFPA Reactivity Hazard : 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating
Health : 2 Moderate Hazard
Flammability : 1 Slight Hazard
Physical : 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

Cell Lysis Buffer SDS (DOC-2047) Ver. 1

Approved By:

[\(CO-178\) Implementation of Safety Data Sheets](#)

Description

First- time addition and Implementation of Safety Data Sheets

Justification

First- time addition and Implementation of Safety Data Sheets to Greenlight Guru

Assigned To:

Lara Self

Initiated By:

Lara Self

Priority:

Medium

Impact:

Minor

Version History:

Author	Effective Date	CO#	Ver.	Status
Lara Self	April 21, 2023 4:28 PM CDT	CO-178	1	Published
Lara Self	April 19, 2023 1:16 PM CDT	Not Available	0	Superseded