

# Lysis Solution 1

**TREVIGEN**<sup>®</sup> Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 05/13/2015 Date of issue: 05/13/2015

Version: 1.0

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Lysis Solution 1

**Product Code:** 4850-20-01

### 1.2. Intended Use of the Product

No use is specified.

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

#### Company

Trevigen Inc.  
8405 Helgerman Court  
20877 Gaithersburg, MD 20877  
T 1-800-TREVIGEN

### 1.4. Emergency Telephone Number

**Emergency Number** : 301-216-2800

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### Classification (GHS-US)

Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Corr. 1C	H314
Eye Dam. 1	H318
Aquatic Acute 3	H402
Aquatic Chronic 3	H412

Full text of H-phrases: see section 16

### 2.2. Label Elements

#### GHS-US Labeling

#### Hazard Pictograms (GHS-US)



#### Signal Word (GHS-US)

: Danger

#### Hazard Statements (GHS-US)

: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.  
H314 - Causes severe skin burns and eye damage.  
H318 - Causes serious eye damage.  
H402 - Harmful to aquatic life.  
H412 - Harmful to aquatic life with long lasting effects.

#### Precautionary Statements (GHS-US)

: P260 - Do not breathe dust, mist, or spray.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P330+P331+P312 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a poison center or doctor if you feel unwell.  
P303+P361+P353+P363 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.  
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position

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comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a poison center or doctor.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

### 2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. May be corrosive to respiratory tract.

### 2.4. Unknown Acute Toxicity (GHS-US) No data available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Not applicable

### 3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Thiocyanic acid, compound with guanidine (1:1)	(CAS No) 593-84-0	63	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
n-Dodecylsarcosine, sodium salt	(CAS No) 7631-98-3	3.6	Eye Irrit. 2A, H319

Full text of H-phrases: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

**Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Immediately flush skin with plenty of water for at least 60 minutes. Remove contaminated clothing and shoes. Get immediate medical advice/attention. Wash contaminated clothing before reuse.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

**Ingestion:** Do not induce vomiting. Rinse mouth. Seek medical attention if a large amount is swallowed.

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage.

**Inhalation:** Harmful if inhaled. Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

**Skin Contact:** Corrosive. Causes burns. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Eye Contact:** Causes serious eye damage. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision. Causes permanent damage to the cornea, iris, or conjunctiva.

**Ingestion:** Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. Dizziness, headaches, nausea. Vomiting.

**Chronic Symptoms:** None expected under normal conditions of use.

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

If you feel unwell, seek medical advice (show the label where possible).

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**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 flammable.

**Explosion Hazard:** Product is not explosive.

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**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, CO<sub>2</sub>). Hydrogen cyanide. Nitrogen oxides. Sulfur oxides.

### Reference to Other Sections

Refer to section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid all contact with skin, eyes, or clothing. Avoid breathing (dust, mist, spray).

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection 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.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and Material 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. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### 6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.

### 7.3. Specific End Use(s)

No use is specified.

## 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), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

### 8.2. Exposure Controls

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

**Personal Protective Equipment:** Protective goggles. Gloves. Protective clothing. Face shield.



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**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical goggles or face shield.

**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.

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Not available
Odor	: Not available
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Not available
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge

## 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.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Carbon oxides (CO, CO<sub>2</sub>). Hydrogen cyanide. Nitrogen oxides. Sulfur oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity:** Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation:dust,mist: Harmful if inhaled.

**LD50 and LC50 Data:**

Lysis Solution 1	
ATE US (oral)	750.75 mg/kg body weight
ATE US (dermal)	1,651.65 mg/kg body weight
ATE US (dust, mist)	2.25 mg/l/4h

**Skin Corrosion/Irritation:** Causes severe skin burns and eye damage

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**Serious Eye Damage/Irritation:** Causes serious eye damage

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Harmful if inhaled. Inhalation may cause immediate severe irritation progressing quickly to chemical burns

**Symptoms/Injuries After Skin Contact:** Corrosive. Causes burns. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis

**Symptoms/Injuries After Eye Contact:** Causes serious eye damage. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision. Causes permanent damage to the cornea, iris, or conjunctiva

**Symptoms/Injuries After Ingestion:** Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. Dizziness, headaches, nausea. Vomiting

**Chronic Symptoms:** None expected under normal conditions of use.

### 11.2. Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

Thiocyanic acid, compound with guanidine (1:1) (593-84-0)	
ATE US (oral)	500.00 mg/kg body weight
ATE US (dermal)	1,100.00 mg/kg body weight
ATE US (gases)	4,500.00 ppmV/4h
ATE US (vapors)	11.00 mg/l/4h
ATE US (dust, mist)	1.50 mg/l/4h

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General:** Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

**12.2. Persistence and Degradability** Not available

**12.3. Bioaccumulative Potential** Not available

**12.4. Mobility in Soil** Not available

### 12.5. Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Sewage Disposal Recommendations:** This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

## SECTION 14: TRANSPORT INFORMATION

### 14.1. In Accordance with DOT

**Proper Shipping Name** : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ( Contains Thiocyanic acid, compound with guanidine (1:1); Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, disodium salt, dehydrate)

**Hazard Class** : 8

**Identification Number** : UN3261

**Label Codes** : 8

**Packing Group** : III

**ERG Number** : 154



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### 14.2. In Accordance with IMDG

**Proper Shipping Name** : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ( Contains Thiocyanic acid, compound with guanidine (1:1); Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, disodium salt, dehydrate)

**Hazard Class** : 8

**Identification Number** : UN3261

**Packing Group** : III

**Label Codes** : 8

**EmS-No. (Fire)** : F-A

**EmS-No. (Spillage)** : S-B



### 14.3. In Accordance with IATA

**Proper Shipping Name** : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ( Contains Thiocyanic acid, compound with guanidine (1:1); Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, disodium salt, dehydrate)

**Packing Group** : III

**Identification Number** : UN3261

**Hazard Class** : 8

**Label Codes** : 8

**ERG Code (IATA)** : 8L



### 14.4. In Accordance with TDG

**Proper Shipping Name** : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ( Contains Thiocyanic acid, compound with guanidine (1:1); Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, disodium salt, dehydrate)

**Packing Group** : III

**Hazard Class** : 8

**Identification Number** : UN3261

**Label Codes** : 8



## SECTION 15: REGULATORY INFORMATION



### 15.1. US Federal Regulations

<b>Lysis Solution 1</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard
<b>Thiocyanic acid, compound with guanidine (1:1) (593-84-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>n-Dodecylsarcosine, sodium salt (7631-98-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard

### 15.2. US State Regulations

Neither this product nor its chemical components appear on any US state lists.

### 15.3. Canadian Regulations

<b>Lysis Solution 1</b>	
<b>WHMIS Classification</b>	Class E - Corrosive Material Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
	
<b>Thiocyanic acid, compound with guanidine (1:1) (593-84-0)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
<b>WHMIS Classification</b>	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class E - Corrosive Material
<b>n-Dodecylsarcosine, sodium salt (7631-98-3)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

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WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

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

**Revision Date** : 05/13/2015  
**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:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Corr. 1C	Skin corrosion/irritation Category 1C
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

#### Party Responsible for the Preparation of This Document

Trevigen INC. 8405 Helgerman Court Gaithersburg, MD 20877 T: 301-216-2800

*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.*

North America GHS US 2012 & WHMIS 2