

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 02/10/2011

Reviewed on 02/10/2011

**1 Identification of the substance/mixture and of the company/undertaking**

**Product identifier**

**Trade name:** Lysis Buffer, Blood

**Article number:** MD1391

**Relevant identified uses of the substance or mixture and uses advised against**  
**Application of the substance / the preparation** Laboratory chemicals

**Details of the supplier of the safety data sheet**  
**Manufacturer/Supplier:**

Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**Information department:** MSDS author: Regulatory.Affairs@promega.com

**Emergency telephone number:**

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300  
For call originating outside the United States dial 001-703-527-3887

**2 Composition/information on ingredients**

**Chemical characterization: Mixtures**

**Description:** Mixture of the substances listed below with nonhazardous additions.

**Dangerous components:**

593-84-0	guanidinium thiocyanate	50-75%
139-33-3	disodium dihydrogenethylenediaminetetraacetate	<2.50%
75621-03-3	3-[(3-Choalamidopropyl)dimethylammonio]propanesulfonic acid	<2.00%
9002-93-1	Polyethylene glycol tert-octylphenyl ether	<2.00%

**Additional information:** For the wording of the listed risk phrases refer to section 15.

**3 Hazards identification**

**Classification of the substance or mixture**

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



**Toxic**

May cause harm to the unborn child.



**Harmful**

Harmful by inhalation and if swallowed.

Harmful to aquatic organisms.

(Contd. on page 2)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/10/2011

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**Trade name: Lysis Buffer, Blood**

(Contd. of page 1)

**Classification system:**

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

**Label elements****Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

**Code letter and hazard designation of product:**

T Toxic

**Hazard-determining components of labelling:**

3-[(3-Choalamidopropyl)dimethylammonio]propanesulfonic acid  
guanidinium thiocyanate

**Risk phrases:**

May cause harm to the unborn child.  
Also harmful by inhalation and if swallowed.  
Harmful to aquatic organisms.

**Safety phrases:**

Keep container in a well-ventilated place.  
When using do not eat or drink.  
Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).  
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
Avoid release to the environment. Refer to special instructions/safety data sheets.

**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 0

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = \*2

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):**

Toxic

Reproductive Hazard

Environmental Hazard

**Primary route(s) of entry:**

Inhalation

Oral

**Target Organ(s):**

May affect Nervous system (Neurotoxin)

May cause Kidney damage (Nephrotoxin)

Risk of damage to eyes

Affects Gastrointestinal System

**Other hazards** Product has been observed to have sensitizing effects.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

USA

(Contd. on page 3)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/10/2011

Reviewed on 02/10/2011

Trade name: **Lysis Buffer, Blood**

(Contd. of page 2)

## 4 First aid measures

### Description of first aid measures

#### General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Medical supervision for at least 48 hours.

#### After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment in case of complaints.

**After skin contact:** Generally the product does not irritate the skin.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** Seek immediate medical advice.

#### Information for doctor:

**Most important symptoms and effects, both acute and delayed** None

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Firefighting measures

### Extinguishing media

#### Suitable extinguishing agents:

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture** None known

#### Advice for firefighters

No special advice

In the case of fire, wear respiratory protective equipment and chemical protective suit.

**Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Wear protective clothing.

### Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### Reference to other sections

See Section 7 for information on safe handling.

See Section 13 for disposal information.

USA

(Contd. on page 4)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/10/2011

Reviewed on 02/10/2011

Trade name: **Lysis Buffer, Blood**

(Contd. of page 3)

## 7 Handling and storage

### Handling:

#### Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about protection against explosions and fires:** The product is not flammable.

#### Conditions for safe storage, including any incompatibilities

### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep receptacle tightly sealed.

**Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

### Control parameters

#### Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** The lists that were valid during the creation were used as basis.

### Exposure controls

#### Personal protective equipment:

#### General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat or drink while working.

Ensure that washing facilities are available at the work place.

#### Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

#### Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

**Form:** Fluid

**Color:** Colorless

(Contd. on page 5)

USA

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/10/2011

Reviewed on 02/10/2011

Trade name: *Lysis Buffer, Blood*

(Contd. of page 4)

<b>Odor:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100°C (212 °F)
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Segregation coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	1.0 %
<b>Water:</b>	42.3 %
<b>Solids content:</b>	56.7 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.

**Conditions to avoid** No further relevant information available.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

USA

(Contd. on page 6)

# Material Safety Data Sheet

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Reviewed on 02/10/2011

Trade name: Lysis Buffer, Blood

(Contd. of page 5)

## 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

#### LD/LC50 values that are relevant for classification:

#### 593-84-0 guanidinium thiocyanate

Oral	LD50	475 mg/kg (Rat) By analogy to guanidine hydrochloride
Dermal	LD50	>2000 mg/kg (Rabbit) By analogy to Guanidine hydrochloride.

#### Primary irritant effect:

*on the skin:* No irritant effect.

*on the eye:* Irritating effect.

*Sensitization:* Sensitization possible through inhalation.

#### Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful

## 12 Ecological information

### Toxicity

*Aquatic toxicity:* Harmful to aquatic life

*Persistence and degradability:* Not available

*Behavior in environmental systems:*

*Bioaccumulative potential:* Not known

*Mobility in soil:* No further relevant information available.

### Ecotoxicological effects:

*Remark:* Harmful to fish

### Additional ecological information:

#### General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Harmful to aquatic organisms

### Results of PBT and vPvB assessment

*PBT:* Not applicable.

*vPvB:* Not applicable.

*Other adverse effects:* No further relevant information available.

## 13 Disposal considerations

### Waste treatment methods

#### Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

#### Uncleaned packagings:

*Recommendation:* Disposal must be made according to official regulations.

(Contd. on page 7)

USA

# Material Safety Data Sheet

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Printing date 02/10/2011

Reviewed on 02/10/2011

Trade name: **Lysis Buffer, Blood**

(Contd. of page 6)

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

## \* 14 Transport information

Contact Promega Safety Department for additional transportation information

**DOT regulations:** Not regulated  
**Hazard class:** -

**Land transport ADR/RID (cross-border):** Not regulated

**ADR/RID class:** -  
**UN-Number:** Not regulated

**Maritime transport IMDG:**  
**IMDG Class:** -  
**Marine pollutant:** No

**Air transport ICAO-TI and IATA-DGR:** Not regulated  
**ICAO/IATA Class:** -

**Special precautions for user** Not applicable.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

## \* 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 Sara

**Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**Proposition 65**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

(Contd. on page 8)

# Material Safety Data Sheet

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**Trade name: Lysis Buffer, Blood**

(Contd. of page 7)

**NTP (National Toxicology Program)**

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**MAK (German Maximum Workplace Concentration)**

None of the ingredients are listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

**Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

**Hazard symbols:**

T Toxic

**Hazard-determining components of labelling:**

3-[(3-Choalamidopropyl)dimethylammonio]propanesulfonic acid  
guanidinium thiocyanate

**Risk phrases:**

May cause harm to the unborn child.  
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In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
Avoid release to the environment. Refer to special instructions/safety data sheets.

**National regulations:**

Class	Share in %
Wasser	42.3
NK	1.0

**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing MSDS:**

Promega Corporation  
Environmental Health and Safety Department  
2800 Woods Hollow Road  
Madison, WI  
Ph: (608)274-4330

\* Data compared to the previous version altered.