1 Identification

Product identifier
Trade name: Cell Lysis Buffer (CLC)

Article number: A145

Application of the substance / the mixture 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: SDS author: Regulatory.Affairs@promega.com
Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) Identification

Classification of the substance or mixture

GHS08 Health hazard

STOT SE 2  H371 May cause damage to organs.

GHS05 Corrosion

Skin Corr. 1A  H314 Causes severe skin burns and eye damage.
Eye Dam. 1  H318 Causes serious eye damage.

Label elements:
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms GHS05, GHS08
Signal word Danger

Hazard-determining components of labeling:
sodium dodecyl sulphate
sodium hydroxide

Hazard statements
Causes severe skin burns and eye damage.
May cause damage to organs.

(Cond. on page 2)
Trade name: Cell Lysis Buffer (CLC)

Precautionary statements
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Do not breathe dusts or mists.
- Wear eye protection / face protection.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER/doctor.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Wash contaminated clothing before reuse.
- If swallowed: Rinse mouth. Do NOT induce vomiting.
- IF exposed or concerned: Call a POISON CENTER/doctor.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
- NFPA ratings (scale 0 - 4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0
- HMIS-ratings (scale 0 - 4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):
- Highly Toxic
- Corrosive
- Environmental Hazard

Primary route(s) of entry:
- Dermal
- Inhalation
- Oral

Target Organ(s): Not applicable or unknown

Other hazards
- This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances may be withheld as a Promega Corp. trade secret.

<table>
<thead>
<tr>
<th>Dangerous components</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>151-21-3 sodium dodecyl sulphate</td>
<td>5-10%</td>
</tr>
<tr>
<td>1310-73-2 sodium hydroxide</td>
<td>&lt;2.50%</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
* 4 First-aid measures

Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.
Seek medical treatment.
After Inhalation: In case of unconsciousness place patient stably in side position for transportation.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
After eye contact: Call a doctor immediately.
After swallowing:
Rinse out mouth and then drink plenty of water.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
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 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO₂, 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 In the case of fire, wear respiratory protective equipment and chemical protective suit.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Remove persons from danger area.
Wear protective equipment. Keep unprotected persons away.
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).
Use neutralizing agent.
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.
7 Handling and storage

Handling:
Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
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 following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

<table>
<thead>
<tr>
<th>Compound</th>
<th>PEL Long-term value</th>
<th>REL Ceiling limit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-73-3 sodium hydroxide</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

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

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Ensure that washing facilities are available at the work place.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

(Contd. on page 5)
**9 Physical and chemical properties**

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td>Appearance</td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td>Color: Colorless</td>
</tr>
<tr>
<td>Odor: Not determined</td>
</tr>
<tr>
<td>Odor threshold: Not determined</td>
</tr>
<tr>
<td>pH-value at 20 °C (68 °F): 13</td>
</tr>
<tr>
<td>Change in condition</td>
</tr>
<tr>
<td>Melting point/Melting range: Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range: Undetermined.</td>
</tr>
<tr>
<td>Flash point: Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gaseous): Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
</tr>
<tr>
<td>Decomposition temperature: Not determined.</td>
</tr>
<tr>
<td>Auto igniting: Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion: Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
</tr>
<tr>
<td>Lower: Not determined</td>
</tr>
<tr>
<td>Upper: Not determined</td>
</tr>
<tr>
<td>Vapor pressure: Not determined</td>
</tr>
<tr>
<td>Density: Not determined</td>
</tr>
<tr>
<td>Relative density: Not determined</td>
</tr>
<tr>
<td>Vapor density: Not determined</td>
</tr>
<tr>
<td>Evaporation rate: Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with</td>
</tr>
<tr>
<td>Water: Fully miscible</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water): Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
</tr>
<tr>
<td>Dynamic: Not determined</td>
</tr>
<tr>
<td>Kinematic: Not determined</td>
</tr>
<tr>
<td>Organic solvents: 0.0 %</td>
</tr>
<tr>
<td>Water: 90.9 %</td>
</tr>
<tr>
<td>Other information No further relevant information available.</td>
</tr>
</tbody>
</table>


**10 Stability and reactivity**

- Reactivity: No further relevant information available.
- 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.

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>151-21-3 sodium dodecyl sulphate</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>LD50 1288 mg/kg (Rat)</td>
</tr>
<tr>
<td>Irritation of skin</td>
</tr>
<tr>
<td>acute 50 mg/ 24H (Rabbit)</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>1310-73-2 sodium hydroxide</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>LD50 2000 mg/kg (Rat)</td>
</tr>
<tr>
<td>Irritation of skin</td>
</tr>
<tr>
<td>acute 500 mg/ 24H (Rabbit)</td>
</tr>
<tr>
<td>severe</td>
</tr>
</tbody>
</table>

**Primary irritant effect:**
- on the skin: Caustic effect on skin and mucous membranes.
- on the eye: Strong caustic effect.
- Irritating effect.
- Sensitization: No sensitizing effects known.

**Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
  - Corrosive
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**Carcinogenic categories**

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
</tr>
<tr>
<td>NTP (National Toxicology Program)</td>
</tr>
<tr>
<td>None of the ingredients are listed.</td>
</tr>
<tr>
<td>OSHA-Ca (Occupational Safety &amp; Health Administration)</td>
</tr>
<tr>
<td>None of the ingredients are listed.</td>
</tr>
</tbody>
</table>

**12 Ecological information**

**Toxicity**
- Aquatic toxicity: Not harmful to the aquatic environment
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.

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

14 Transport information

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, ADR, IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1824</td>
<td></td>
</tr>
</tbody>
</table>

UN proper shipping name

DOT

ADR

IMDG, IATA

Sodium hydroxide solution

1824 Sodium hydroxide solution

SODIUM HYDROXIDE SOLUTION

Transport hazard class(es)

DOT

Class 8 Corrosive substances
**Trade name: Cell Lysis Buffer (CLC)**

<table>
<thead>
<tr>
<th><strong>Label</strong></th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>8 (C7) Corrosive substances</td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>IMDG, IATA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>8 Corrosive substances</td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

**Packing group**
- **DOT, ADR, IMDG, IATA**: II

**Environmental hazards:**
- **Marine pollutant**: No

**Special precautions for user**
- Warning: Corrosive substances

**Danger code (Kemler):**
- 80

**EMS Number:**
- F-A,S-B

**Segregation groups**
- Alkalis

**Stowage Category**
- A

**Segregation Code**
- SG35 Slow "separated from" acids.

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

**Transport/Additional information:**

<table>
<thead>
<tr>
<th><strong>ADR</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
</tr>
<tr>
<td>Code: E2</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IMDG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limited quantities (LQ)</strong></td>
</tr>
<tr>
<td>1L</td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
</tr>
<tr>
<td>Code: E2</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

**UN "Model Regulation":**
- UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II
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.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Signal word Danger

Hazard-determining components of labeling:
sodium dodecyl sulphate
sodium hydroxide

Hazard statements
Causes severe skin burns and eye damage.
May cause damage to organs.

Precautionary statements
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dusts or mists.
Wear eye protection / face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Wash contaminated clothing before reuse.
If swallowed: Rinse mouth. Do NOT induce vomiting.

(Contd. on page 10)
Trade name: Cell Lysis Buffer (CLC)

IF exposed or concerned: Call a POISON CENTER/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:
Water hazard class: Water hazard class 2 (Self-assessment): 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 SDS:
Promega Corporation
Environmental Health and Safety Department
2800 Woods Hollow Road
Madison, WI
Ph: (608) 274-4330
Date of preparation / last revision 09/20/2016 / -

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LD50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2
* Data compared to the previous version altered.