<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A6810</td>
<td><strong>PureYield™ Plasmid Miniprep Start-Up Kit</strong></td>
</tr>
<tr>
<td></td>
<td><strong>North America</strong></td>
</tr>
</tbody>
</table>

**Components:**

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A145</td>
<td>Cell Lysis Buffer (CLC)</td>
</tr>
<tr>
<td>A157C</td>
<td>Neutralization Solution (NSC)</td>
</tr>
<tr>
<td>A158</td>
<td>Endotoxin Removal Wash (ERB)</td>
</tr>
<tr>
<td>A159</td>
<td>Column Wash Solution (CWC)</td>
</tr>
<tr>
<td>A160A</td>
<td>Elution Buffer (EBB)</td>
</tr>
</tbody>
</table>
1 Identification

Product identifier
Trade name: Cell Lysis Buffer (CLC)

Article number: A145
Application of the substance / the mixture For Laboratory Use

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

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).
Trade name: Cell Lysis Buffer (CLC)

Hazard pictograms

[Image of 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.

Precautionary statements
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If INHALED: Remove person to fresh air and keep comfortable for breathing.
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 exposed or concerned: Call a poison center/doctor.
Wash contaminated clothing before reuse.
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):
Toxic
Highly Toxic
Corrosive
Environmental Hazard

Primary route(s) of entry:
Dermal
Inhalation

Target Organ(s): Not applicable or unknown

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Trade name: Cell Lysis Buffer (CLC)

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:

<table>
<thead>
<tr>
<th>Component</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>1-5%</td>
</tr>
</tbody>
</table>

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

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

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

No further relevant information available.

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.

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.

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.

1310-73-2 sodium hydroxide

<table>
<thead>
<tr>
<th>Limit Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Long-term: 2 mg/m³</td>
</tr>
<tr>
<td>REL</td>
<td>Ceiling limit: 2 mg/m³</td>
</tr>
<tr>
<td>TLV</td>
<td>Ceiling limit: 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.
Trade name: Cell Lysis Buffer (CLC)

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.

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:
Tightly sealed goggles
Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:
Form: Fluid
Color: Colorless
Odor: Not determined
Odor threshold: Not determined

pH-value at 20 °C (68 °F): 13

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.
Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.
Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: Not determined.
Upper: Not determined.

Vapor pressure: Not determined.

Density: Not determined.
Relative density: Not determined.
Vapor density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with
Water: Fully miscible.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: Not determined.
Kinematic: Not determined.
Trade name: Cell Lysis Buffer (CLC)

<table>
<thead>
<tr>
<th>Water:</th>
<th>90.9 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC content:</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Other information</td>
<td>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 LD50</td>
</tr>
<tr>
<td>Irritation of skin acute</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1,288 mg/kg (Rat)</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>50 mg/ 24H (Rabbit)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1310-73-2 sodium hydroxide</td>
</tr>
<tr>
<td>Oral LD50</td>
</tr>
<tr>
<td>Irritation of skin acute</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2,000 mg/kg (Rat)</td>
</tr>
<tr>
<td>severe</td>
</tr>
<tr>
<td>500 mg/ 24H (Rabbit)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:

on the skin: Caustic effect on skin and mucous membranes.

on the eye: Strong caustic 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

IARC (International Agency for Research on Cancer)
None of the ingredients are listed.

NTP (National Toxicology Program)
None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.
12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.
Persistence and degradability
Not available
No further relevant information available.
Bioaccumulative potential
Not known
No further relevant information available.
Mobility in soil
No further relevant information available.
Ecotoxicological effects:
Remark: Harmful to fish
Additional ecological information:
General notes:
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

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.
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>UN2735</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DOT</th>
<th>ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2735 AMINES, LIQUID, CORROSIVE, N.O.S. (SODIUM HYDROXIDE)</td>
<td>2735 AMINES, LIQUID, CORROSIVE, N.O.S. (SODIUM HYDROXIDE)</td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td>AMINES, LIQUID, CORROSIVE, N.O.S. (SODIUM HYDROXIDE)</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Transport hazard class(es)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DOT</strong></td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>8 Corrosive substances</td>
</tr>
<tr>
<td>Label</td>
<td>8</td>
</tr>
<tr>
<td><strong>ADR</strong></td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>8 (C7) Corrosive substances</td>
</tr>
<tr>
<td>Label</td>
<td>8</td>
</tr>
<tr>
<td><strong>IMDG, IATA</strong></td>
<td></td>
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<tr>
<td>Class</td>
<td>8 Corrosive substances</td>
</tr>
<tr>
<td>Label</td>
<td>8</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td></td>
</tr>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td>II</td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td></td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td></td>
</tr>
<tr>
<td>Hazard identification number (Kemler code)</td>
<td>80</td>
</tr>
<tr>
<td>EMS Number</td>
<td>F-A,S-B</td>
</tr>
<tr>
<td>Segregation groups</td>
<td>Alkalis</td>
</tr>
<tr>
<td>Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>Segregation Code</td>
<td>SG35 Stow &quot;separated from&quot; SGG1-acids</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport/Additional information:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ADR</strong></td>
<td></td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
<td>Code: E2</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
<td></td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 500 ml</td>
<td></td>
</tr>
<tr>
<td><strong>IMDG</strong></td>
<td></td>
</tr>
<tr>
<td>Limited quantities (LQ)</td>
<td>1L</td>
</tr>
</tbody>
</table>
### 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) Inventory:**

All ingredients are listed.

**Hazardous Air Pollutants**

None of the 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**

- Do not breathe dusts or mists.
- Wash thoroughly after handling.
Trade name: Cell Lysis Buffer (CLC)

Do not eat, drink or smoke when using this product. 
Wear protective gloves/protective clothing/eye protection/face protection. 
If swallowed: Rinse mouth. Do NOT induce vomiting. 
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 
IF INHALED: Remove person to fresh air and keep comfortable for breathing. 
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 exposed or concerned: Call a poison center/doctor. 
Wash contaminated clothing before reuse. 
Store locked up. 
Dispose of contents/container in accordance with local/regional/national/international 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 
Chemical Regulatory Department 
2800 Woods Hollow Road 
Madison, WI 
Ph: (608)274-4330 

Date of preparation / last revision 08/11/2020 / 2.0 

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) 
VOC: Volatile Organic Compounds (USA, EU) 
LC50: 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.
1 Identification

Product identifier
Trade name: Neutralization Solution (NSC)

Article number: A157C
Application of the substance / the mixture For Laboratory Use

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

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

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

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

Hazard pictograms

GHS07

Signal word Warning
Hazard-determining components of labeling:
guanidinium chloride

Hazard statements
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.

Precautionary statements
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves / eye protection / face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Rinse mouth.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)
Health = 1
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)
Health = 1
Fire = 0
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Irritant
Primary route(s) of entry:
Dermal
Oral

Target Organ(s):
May affect Nervous system (Neurotoxin)
May affect Bones

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients
Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

<table>
<thead>
<tr>
<th>Dangerous components</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-01-1 guanidinium chloride</td>
<td>≤27.178%</td>
</tr>
<tr>
<td>67-63-0 2-Propanol</td>
<td>1-5%</td>
</tr>
</tbody>
</table>
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.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Seek immediate medical advice.
Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.
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
No further relevant information available.
Advice for firefighters
No special advice

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Remove persons from danger area.
Wear protective clothing.
Environmental precautions:
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 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
Keep receptacles tightly sealed.
51.1.1
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 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>67-63-0 2-Propanol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong> Long-term value: 980 mg/m³, 400 ppm</td>
</tr>
<tr>
<td><strong>REL</strong> Short-term value: 1225 mg/m³, 500 ppm</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>TLV</strong> Short-term value: 984 mg/m³, 400 ppm</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>BEI</strong></td>
</tr>
</tbody>
</table>

**Ingredients with biological limit values:**

<table>
<thead>
<tr>
<th>67-63-0 2-Propanol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEI</strong> 40 mg/L</td>
</tr>
</tbody>
</table>

| Medium: urine |
| Time: end of shift at end of workweek |
| Parameter: Acetone (background, nonspecific) |

**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.
Avoid contact with the eyes and skin.
Do not eat or drink while working.
Clean skin thoroughly immediately after handling the product.

**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
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.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and
depends on the ability of the 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:
Safety glasses
Use equipment for eye protection tested and approved under government NIOSH standards.

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: Liquid</td>
</tr>
<tr>
<td>Color: Clear</td>
</tr>
<tr>
<td>Odor: Not determined</td>
</tr>
<tr>
<td>Odor threshold: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in condition</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

| Flammability (solid, gaseous): Not applicable.       |
| Decomposition temperature: Not determined.          |

| Auto igniting: Product is not selfigniting.          |
| Danger of explosion: Product does not present an explosion hazard. |
| Explosion limits:                                   |
| Lower: Not determined.                              |
| Upper: Not determined.                              |
| Vapor pressure: Not determined.                     |

| Density at 20 °C (68 °F): >1.0871 g/cm³ (>9.07185 lbs/gal) |
| Relative density: Not determined.                     |
| Vapor density: Not determined.                        |
| Evaporation rate: Not determined.                    |
| Solubility in / Miscibility with                     |
| Water: Fully miscible.                               |
| Partition coefficient (n-octanol/water): Not determined. |
| Viscosity:                                           |
| Dynamic: Not determined.                             |
| Kinematic: Not determined.                           |

| Organic solvents: ≤2.5 %                             |
| Water: 70.3 %                                        |
| VOC content: ≤2.47 %                                 |
| Solids content: 0.0 %                                |
| Other information No further relevant information available. |

10 Stability and reactivity

Reactivity No further relevant information available.
51.1.1 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: Oxidizing agents
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-01-1 guanidinium chloride</td>
<td>475 mg/kg (Rat)</td>
</tr>
<tr>
<td>Irritation of eyes</td>
<td>500 mg (Rabbit)</td>
</tr>
<tr>
<td>Severe Irritation</td>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 2-Propanol</td>
<td>3</td>
</tr>
</tbody>
</table>

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

Toxicity

Aquatic toxicity:
Not available
No further relevant information available.

Persistence and degradability
Not available
No further relevant information available.

Bioaccumulative potential
Not known
No further relevant information available.

Mobility in soil
No further relevant information available.

Ecotoxicological effects:
Remark: Not available

Additional ecological information:
General notes: No data 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.

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

---

**14 Transport information**

<table>
<thead>
<tr>
<th><strong>UN-Number</strong></th>
<th>Not hazardous for transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT, ADR, IMDG, IATA</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>UN proper shipping name</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>DOT, ADR, ADN, IMDG, IATA</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Transport hazard class(es)</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>DOT, ADR, ADN, IMDG, IATA</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>DOT, ADR, IMDG, IATA</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>UN &quot;Model Regulation&quot;:</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

---

**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):**

67-63-0 2-Propanol

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

All ingredients are listed.
### Trade name: Neutralization Solution (NSC)

<table>
<thead>
<tr>
<th><strong>Hazardous Air Pollutants</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

### Proposition 65

<table>
<thead>
<tr>
<th><strong>Chemicals known to cause cancer:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Chemicals known to cause reproductive toxicity for females:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Chemicals known to cause reproductive toxicity for males:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Chemicals known to cause developmental toxicity:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

### Cancerogenity categories

<table>
<thead>
<tr>
<th><strong>EPA (Environmental Protection Agency)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th><strong>Chemical</strong></th>
<th><strong>TLV</strong></th>
<th><strong>Label</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 2-Propanol</td>
<td>A4</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th><strong>Chemical</strong></th>
<th><strong>Label</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
<td></td>
</tr>
</tbody>
</table>

### GHS label elements

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

**Signal word**: Warning

**Hazard-determining components of labeling**: guanidinium chloride

**Hazard statements**
- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye irritation.

**Precautionary statements**
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves / eye protection / face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- If on skin: Wash with plenty of water.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Rinse mouth.
- Take off contaminated clothing and wash it before reuse.
- If skin irritation occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

**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.

(Contd. on page 9)
Trade name: Neutralization Solution (NSC)

Department issuing SDS:
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

Date of preparation / last revision 08/11/2020 / 1.0

Abbreviations and acronyms:
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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: 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
BEI: Biological Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Endotoxin Removal Wash (ERB)

Article number: A158

Application of the substance / the mixture: For Laboratory Use

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

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

GHS02 Flame

- Flammable Liquid 2 H225 Highly flammable liquid and vapor.

GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- STOT SE 3 H336 May cause drowsiness or dizziness.

Label elements

GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
Trade name: Endotoxin Removal Wash (ERB)

**Hazard pictograms**

GHS02  GHS07

**Signal word** Danger

**Hazard-determining components of labeling:**
- guanidinium chloride
- 2-Propanol

**Hazard statements**
- Highly flammable liquid and vapor.
- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause drowsiness or dizziness.

**Precautionary statements**
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Rinse mouth.
- Take off contaminated clothing and wash it before reuse.
- If skin irritation occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep container tightly closed.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4)**
- Health = 2
- Fire = 3
- Reactivity = 0

**HMIS-ratings (scale 0 - 4)**
- Health = 2
- Fire = 3
- Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):**
- Irritant
- Flammable
Trade name: Endotoxin Removal Wash (ERB)

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

**Target Organ(s):**
- May affect Nervous system (Neurotoxin)
- May cause Kidney damage (Nephrotoxin)
- May affect Bones

**Other hazards**

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

### 3 Composition/information on ingredients

**Chemical characterization:** Mixtures

**Description:**
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

**Dangerous components:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-01-1 guanidinium chloride</td>
<td>37.0%</td>
</tr>
<tr>
<td>67-63-0 2-Propanol</td>
<td>25-50%</td>
</tr>
</tbody>
</table>

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

### 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.
- Take affected persons out into the fresh air.
- Take affected persons out of danger area and lay down.

**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.
- Take affected persons into fresh air and keep quiet.

**After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
- If skin irritation continues, consult a doctor.

**After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

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

**Information for doctor:**
**Most important symptoms and effects, both acute and delayed**
- Headache
- Dizziness
- Nausea
Trade name: Endotoxin Removal Wash (ERB)

**5 Fire-fighting measures**

*Extinguishing media*

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

*Special hazards arising from the substance or mixture*

None known

No further relevant information available.

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.

Keep away from ignition sources

Wear protective clothing.

**Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.

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 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

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Use only in well ventilated areas.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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

**Storage:**

Requirements to be met by storerooms and receptacles: Store in a cool location.

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

Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.
Trade name: Endotoxin Removal Wash (ERB)

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>67-63-0 2-Propanol</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong></td>
<td>Long-term value: 980 mg/m³, 400 ppm</td>
</tr>
<tr>
<td><strong>REL</strong></td>
<td>Short-term value: 1225 mg/m³, 500 ppm</td>
</tr>
<tr>
<td><strong>Long-term value:</strong></td>
<td>980 mg/m³, 400 ppm</td>
</tr>
<tr>
<td><strong>TLV</strong></td>
<td>Short-term value: 984 mg/m³, 400 ppm</td>
</tr>
<tr>
<td><strong>Long-term value:</strong></td>
<td>492 mg/m³, 200 ppm</td>
</tr>
</tbody>
</table>

Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>67-63-0 2-Propanol</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEI</strong></td>
<td>40 mg/L</td>
</tr>
<tr>
<td><strong>Medium:</strong></td>
<td>urine</td>
</tr>
<tr>
<td><strong>Time:</strong></td>
<td>end of shift at end of workweek</td>
</tr>
<tr>
<td><strong>Parameter:</strong></td>
<td>Acetone (background, nonspecific)</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:
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 and skin.
Do not eat or drink while working.
Clean skin thoroughly immediately after handling the product.

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
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.

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:
Safety glasses
Use equipment for eye protection tested and approved under government NIOSH standards.
## 9 Physical and chemical properties

### Information on basic physical and chemical properties

**General Information**

- **Appearance:** Fluid
- **Form:** Fluid
- **Color:** Colorless
- **Odor:** Alcohol-like
- **Odor threshold:** Not determined.

**pH-value at 20 °C (68 °F):** 5.2

### Change in condition

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 82 °C (179.6 °F)
- **Flash point:** < 23 °C (< 73.4 °F)

### Flammability (solid, gaseous):

- **Ignition temperature:** 425 °C (797 °F)
- **Decomposition temperature:** Not determined.

### Auto igniting:

- **Product is not selfigniting.**

### Danger of explosion:

- **Product does not present an explosion hazard.**
- **Product is not explosive. However, formation of explosive air/vapor mixtures are possible.**

**Explosion limits:**

- **Lower:** 2 Vol %
- **Upper:** 12 Vol %

**Vapor pressure at 20 °C (68 °F):** 43 hPa (32.3 mm Hg)

**Density at 20 °C (68 °F):** 1.05055 g/cm³ (8.76684 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not determined.

**Evaporation rate** Not determined.

**Solubility in / Miscibility with**

- **Water:** Fully miscible.

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

- **Dynamic:** Not determined.
- **Kinematic:** Not determined.

**Organic solvents:** 35.0 %

**Water:** 28.0 %

**VOC content:** 35.00 %

**Solids content:** 37.0 %

**Other information** No further relevant information available.

## 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** Reacts with strong acids and oxidizing agents.

**Conditions to avoid** No further relevant information available.
Trade name: Endotoxin Removal Wash (ERB)

Incompatible materials: Oxidizing agents

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>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>50-01-1 guanidinium chloride</td>
<td></td>
</tr>
<tr>
<td>Oral LD50</td>
<td>475 mg/kg (Rat)</td>
</tr>
<tr>
<td>Irritation of eyes acute</td>
<td>500 mg (Rabbit)</td>
</tr>
<tr>
<td></td>
<td>Severe Irritation</td>
</tr>
</tbody>
</table>

Primary irritant effect:

- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

- Harmful
- Irritant

Carcinogenic categories

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 2-Propanol</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety &amp; Health Administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients are listed.</td>
</tr>
</tbody>
</table>

* 12 Ecological information

Toxicity

Aquatic toxicity:

- Not available

No further relevant information available.

Persistence and degradability

- Not available

No further relevant information available.

Bioaccumulative potential

- Not known

No further relevant information available.

Mobility in soil

- No further relevant information available.

Ecotoxicological effects:

- Remark: Not available

Additional ecological information:

General notes: No data available.

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

**14 Transport information**

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>UN1219</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td></td>
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</table>

**UN proper shipping name**

<table>
<thead>
<tr>
<th>DOT</th>
<th>Isopropanol solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>1219 ISOPROPANOL (ISOPROPYL ALCOHOL) solution</td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td>ISOPROPANOL (ISOPROPYL ALCOHOL) solution</td>
</tr>
</tbody>
</table>

**Transport hazard class(es)**

<table>
<thead>
<tr>
<th>DOT</th>
<th>3 Flammable liquids</th>
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</thead>
<tbody>
<tr>
<td>Class</td>
<td>3</td>
</tr>
<tr>
<td>Label</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>ADR</th>
<th>3 (F1) Flammable liquids</th>
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<tr>
<td>Class</td>
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<tr>
<td>Label</td>
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<table>
<thead>
<tr>
<th>IMDG, IATA</th>
<th>3 Flammable liquids</th>
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</thead>
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<td>Class</td>
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<td>Label</td>
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</table>

<table>
<thead>
<tr>
<th>Packing group</th>
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</thead>
<tbody>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td>II</td>
</tr>
</tbody>
</table>

(Contd. of page 9)
**Environmental hazards:**

**Marine pollutant:** No

**Special precautions for user**
Warning: Flammable liquids

**Hazard identification number (Kemler code):** 33

**EMS Number:** F-E,S-E

**Stowage Category** B

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

**Transport/Additional information:**

<table>
<thead>
<tr>
<th>ADR</th>
<th>Code: E2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

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

**UN "Model Regulation":** UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) SOLUTION, 3, 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):**
67-63-0 2-Propanol

**TSCA (Toxic Substances Control Act) Inventory:**
All ingredients are listed.

**Hazardous Air Pollutants**
None of the 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.
Trade name: Endotoxin Removal Wash (ERB)

### Cancerogenity categories

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

**TLV (Threshold Limit Value established by ACGIH)**
- 67-63-0 2-Propanol

**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:**
- guanidinium chloride
- 2-Propanol

**Hazard statements**
- Highly flammable liquid and vapor.
- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause drowsiness or dizziness.

**Precautionary statements**
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If skin irritation occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep container tightly closed.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

**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.
Trade name: Endotoxin Removal Wash (ERB)

Department issuing SDS:
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

Date of preparation / last revision 08/11/2020 / 1.0

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)
VOC: Volatile Organic Compounds (USA, EU)
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
TLF: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flam. Liq. 2: Flammable liquids -- Category 2
Acute Tox. 4: Acute toxicity -- Category 4
Skin Irrit. 2: Skin corrosion/irritation -- Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation -- Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) -- Category 3

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Column Wash Solution (CWC)

Article number: A159
Application of the substance / the mixture For Laboratory Use

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

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
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements
GHS label elements Not applicable
Hazard pictograms Not applicable
Signal word Not applicable
Hazard statements Not applicable
Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable
Target Organ(s): Not applicable or unknown

(Contd. on page 2)
Trade name: Column Wash Solution (CWC)

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:
1185-53-1 Tris HCl 1-5%

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

4 First-aid measures

Description of first aid measures
General information: No special measures required.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
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: If the patient feels unwell or is concerned, obtain medical advice.
Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.
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
No further relevant information available.
Advice for firefighters No special advice
Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.
Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
7 Handling and storage

Handling:
Precautions for safe handling No special measures required.
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: None.
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:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
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: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Fluid
Color: Colorless
Odor: Not determined
Odor threshold: Not determined.
pH-value at 20 °C (68 °F): 8.2
Change in condition
Melting point/Melting range: 0 °C (32 °F)
Boiling point/Boiling range: 100 °C (212 °F)
Flash point: Not applicable.
Flammability (solid, gaseous): Not applicable.
Trade name: Column Wash Solution (CWC)

### Decomposition temperature:
Not determined.

### Auto igniting:
Product is not selfigniting.

### Danger of explosion:
Product does not present an explosion hazard.

### Explosion limits:
- **Lower:** Not determined.
- **Upper:** Not determined.

### Vapor pressure:
Not determined.

### Density at 20 °C (68 °F):
1 g/cm³ (8.345 lbs/gal)

### Relative density:
Not determined.

### Vapor density:
Not determined.

### Evaporation rate:
Not determined.

### Solubility in / Miscibility with Water:
Fully miscible.

### Partition coefficient (n-octanol/water):
Not determined.

### Viscosity:
- **Dynamic:** Not determined.
- **Kinematic:** Not determined.
- **Water:** 98.5 %
- **VOC content:** 0.00 %

### Other information
No further relevant information available.

---

**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**:

**LD/LC50 values that are relevant for classification**: No data available

**Primary irritant effect**:
- on the skin: No irritant effect.
- on the eye: No irritating effect.

**Sensitization**: No sensitizing effects known.

**Additional toxicological information**:
The product is not subject to classification according to internally approved calculation methods for preparations.

**Carcinogenic categories**

**IARC (International Agency for Research on Cancer)**
None of the ingredients are listed.

**NTP (National Toxicology Program)**
None of the ingredients are listed.
**12 Ecological information**

**Toxicity**
*Aquatic toxicity:*
Not available
No further relevant information available.

**Persistence and degradability**
Not available
No further relevant information available.

**Bioaccumulative potential**
Not known
No further relevant information available.

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:**
Not available.
Not known to be hazardous to water.

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

---

**14 Transport information**

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<th><strong>UN-Number</strong></th>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>UN proper shipping name</strong></th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT, ADR, ADN, IMDG, IATA</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transport hazard class(es)</strong></th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT, ADR, ADN, IMDG, IATA</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Class**
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) Inventory:** All ingredients are listed.

**Hazardous Air Pollutants**

None of the 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** Not applicable

**Signal word** Not applicable

**Hazard statements** Not applicable

**Water hazard class:** Generally not hazardous for water.
Trade name: Column Wash Solution (CWC)

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
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph: (608)274-4330

Date of preparation / last revision 08/11/2020 / 1.0

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)
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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: 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

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Elution Buffer (EBB)

Article number: A160A
Application of the substance / the mixture: For Laboratory Use

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

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
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements
GHS label elements: Not applicable
Hazard pictograms: Not applicable
Signal word: Not applicable
Hazard statements: Not applicable
Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable
Target Organ(s): Not applicable or unknown

(Contd. on page 2)
Safety Data Sheet
acc. to OSHA HCS

Trade name: Elution Buffer (EBB)

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components: Not applicable
Additional information: For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

Description of first aid measures
General information: No special measures required.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
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: If the patient feels unwell or is concerned, obtain 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 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 No special advice

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.
Environmental precautions: Dilute with plenty of water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
7 Handling and storage

Handling:
Precautions for safe handling: No special measures required.
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: None.
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:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
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: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
  Form: Fluid
  Color: Colorless
  Odor: Not determined
  Odor threshold: Not determined.

  pH-value at 20 °C (68 °F): 8.5

Change in condition
  Melting point/Melting range: 0 °C (32 °F)
  Boiling point/Boiling range: 100 °C (212 °F)
  Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.
Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
Explosion limits: Not determined.
  Lower: Not determined.
  Upper: Not determined.
Vapor pressure: Not determined.
Density at 20 °C (68 °F): 0.99929 g/cm³ (8.33908 lbs/gal)
Relative density: Not determined.
Vapor density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with Water: Fully miscible.
Partition coefficient (n-octanol/water): Not determined.
Viscosity: Dynamic at 20 °C (68 °F): 0.0952 mPas
  Kinematic: Not determined.
  Water: 100.0 %
  VOC content: 0.00 %
Solids content: 0.2 %
Other information: No further relevant information available.

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:
  LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
  on the skin: No irritant effect.
  on the eye: No irritating effect.
Sensitization: No sensitizing effects known.
Additional toxicological information:
  The product is not subject to classification according to internally approved calculation methods for preparations:
  Carcinogenic categories
  IARC (International Agency for Research on Cancer)
  None of the ingredients are listed.
**12 Ecological information**

**Toxicity**
*Aquatic toxicity:*  
Not available  
No further relevant information available.

**Persistence and degradability**
Not available  
No further relevant information available.

**Bioaccumulative potential**
Not known  
No further relevant information available.

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:**
Not available.

Not known to be hazardous to water.

**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.

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

---

**14 Transport information**

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not hazardous for transportation</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th></th>
</tr>
</thead>
</table>
### 15 Regulatory information

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

#### Sara

<table>
<thead>
<tr>
<th>Section 355 (extremely hazardous substances):</th>
<th>None of the ingredients are listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 313 (Specific toxic chemical listings):</td>
<td>None of the ingredients are listed.</td>
</tr>
<tr>
<td>TSCA (Toxic Substances Control Act) Inventory:</td>
<td>All ingredients are listed.</td>
</tr>
</tbody>
</table>

#### Hazardous Air Pollutants

None of the ingredients are listed.

#### Proposition 65

<table>
<thead>
<tr>
<th>Chemicals known to cause cancer:</th>
<th>None of the ingredients are listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals known to cause reproductive toxicity for females:</td>
<td>None of the ingredients are listed.</td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity for males:</td>
<td>None of the ingredients are listed.</td>
</tr>
<tr>
<td>Chemicals known to cause developmental toxicity:</td>
<td>None of the ingredients are listed.</td>
</tr>
</tbody>
</table>

#### Cancerogenity categories

<table>
<thead>
<tr>
<th>EPA (Environmental Protection Agency)</th>
<th>None of the ingredients are listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV (Threshold Limit Value established by ACGIH)</td>
<td>None of the ingredients are listed.</td>
</tr>
<tr>
<td>NIOSH-Ca (National Institute for Occupational Safety and Health)</td>
<td>None of the ingredients are listed.</td>
</tr>
</tbody>
</table>

#### GHS label elements

<table>
<thead>
<tr>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal word</td>
</tr>
<tr>
<td>Hazard statements</td>
</tr>
</tbody>
</table>
### Safety Data Sheet

**acc. to OSHA HCS**

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**Trade name:** Elution Buffer (EBB)

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**Water hazard class:** Generally not hazardous for water.

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

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#### 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
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

**Date of preparation / last revision** 08/11/2020 / 1.0

**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)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: 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

* Data compared to the previous version altered.

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