

08/25/2017

### Kit Components

Product code	Description
<b>A1222PR5</b>	<b>PureYield™ Miniprep and GoTaq® Hot Start promo bundle</b>

Components:

A1222	PureYield™ Plasmid Miniprep System, 250 preps
M5005	GoTaq® Hot Start Polymerase, 500u



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**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](mailto: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.

**Precautionary statements**

Do not breathe dusts or mists.

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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.

IF exposed or concerned: Call a POISON CENTER/doctor.

Immediately 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):**

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.

**Dangerous components:**

151-21-3	sodium dodecyl sulphate	5-10%
1310-73-2	sodium hydroxide	<2.5%

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

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**Trade name: Cell Lysis Buffer (CLC)**

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## 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** Dizziness

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

No further relevant information available.

## 5 Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing agents:

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

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

**Advice for firefighters** 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.

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Trade name: Cell Lysis Buffer (CLC)

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## 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.

#### 1310-73-2 sodium hydroxide

PEL Long-term value: 2 mg/m<sup>3</sup>

REL Ceiling limit value: 2 mg/m<sup>3</sup>

TLV Ceiling limit value: 2 mg/m<sup>3</sup>

**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.

##### 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.

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**Trade name: Cell Lysis Buffer (CLC)**

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**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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20°C (68 °F):** 13

**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:**

**Decomposition temperature:** Not determined.

**Auto igniting:** Product is not selfigniting.

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

**Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	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.

**Water:** 90.9 %

**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.

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**Trade name: Cell Lysis Buffer (CLC)**

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**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:

##### 151-21-3 sodium dodecyl sulphate

Oral	LD50	1,288 mg/kg (Rat)
Irritation of skin	acute	50 mg/ 24H (Rabbit) Severe

##### 1310-73-2 sodium hydroxide

Oral	LD50	2,000 mg/kg (Rat)
Irritation of skin	acute	500 mg/ 24H (Rabbit) severe

#### 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

##### 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 harmful to the aquatic environment

**Persistence and degradability:** Not available

### Behavior in environmental systems:

**Bioaccumulative potential:** Not known

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

### Ecotoxicological effects:

**Remark:** Harmful to fish

### Additional ecological information:

#### General notes:

Water hazard class 2 (Self-assessment): hazardous for water

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**Trade name: Cell Lysis Buffer (CLC)**

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*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

**UN-Number**

**DOT, ADR, IMDG, IATA**

UN1824

**UN proper shipping name**

**DOT**

Sodium hydroxide solution

**ADR**

1824 Sodium hydroxide solution

**IMDG, IATA**

SODIUM HYDROXIDE SOLUTION

**Transport hazard class(es)**

**DOT**



**Class**

8 Corrosive substances

**Label**

8

**ADR**



**Class**

8 (C7) Corrosive substances

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Trade name: Cell Lysis Buffer (CLC)

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<b>Label</b>	8
<b>IMDG, IATA</b>	
	
<b>Class</b>	8 Corrosive substances
<b>Label</b>	8
<b>Packing group</b>	II
<b>DOT, ADR, IMDG, IATA</b>	
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Warning: Corrosive substances
<b>Danger code (Kemler):</b>	80
<b>EMS Number:</b>	F-A,S-B
<b>Segregation groups</b>	Alkalis
<b>Stowage Category</b>	A
<b>Segregation Code</b>	SG35 Stow "separated from" acids.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b>	
<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>IMDG</b>	
<b>Limited quantities (LQ)</b>	1L
<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>UN "Model Regulation":</b>	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.

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**Trade name: Cell Lysis Buffer (CLC)**

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**Proposition 65****Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**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.

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.

IF exposed or concerned: Call a POISON CENTER/doctor.

Immediately 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.

**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.

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# Safety Data Sheet

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Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Cell Lysis Buffer (CLC)**

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**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 08/25/2017 / -**

**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: International 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.**

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

\* **1 Identification**

**Product identifier**

**Trade name:** Neutralization Solution (NSC)

**Article number:** A157

**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](mailto: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**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

**Label elements**

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

**Hazard pictograms** GHS05, GHS07

**Signal word** Danger

**Hazard-determining components of labeling:**

guanidinium chloride  
Trade Secret 002-4036

**Hazard statements**

Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye damage.

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**Trade name: Neutralization Solution (NSC)**

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**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.

Immediately call a POISON CENTER/doctor.

Rinse mouth.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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)**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.

**Dangerous components:**

50-01-1	guanidinium chloride	23.0%
	Trade Secret 001-4036	1-5%
	Trade Secret 002-4036	1-5%

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

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**Trade name: Neutralization Solution (NSC)**

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## 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:

Immediately call a doctor.

Seek immediate medical advice.

#### Information for doctor:

**Most important symptoms and effects, both acute and delayed** Dizziness

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

No further relevant information available.

## 5 Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing agents:

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

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

**Advice for firefighters** No special advice

## 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.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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## acc. to OSHA HCS

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**Trade name: Neutralization Solution (NSC)**

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

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

**Storage:**

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

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

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

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

## \* 8 Exposure controls/personal protection

**Control parameters**

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

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

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

**Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing.*

*Wash hands before breaks and at the end of work.*

*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:**

<b>Form:</b>	<i>Fluid</i>
<b>Color:</b>	<i>Colorless</i>
<b>Odor:</b>	<i>Not determined</i>
<b>Odor threshold:</b>	<i>Not determined.</i>

(Contd. on page 5)



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Trade name: Neutralization Solution (NSC)

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**pH-value at 20°C (68 °F):** 3.8

**Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:**

**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.

**Water:** 65.9 %

**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:**

**50-01-1 guanidinium chloride**

Oral	LD50	475 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit) Severe Irritation

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Neutralization Solution (NSC)**

(Contd. of page 5)

**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)**

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 harmful to the aquatic environment**Persistence and degradability** Not available**Behavior in environmental systems:****Bioaccumulative potential** Not known**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:**

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

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

**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.

US

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Neutralization Solution (NSC)**

(Contd. of page 6)

## 14 Transport information

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Void
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Void
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

## 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):**

50-01-1	guanidinium chloride
7447-40-7	potassium chloride
	Phenol Red sodium salt
7732-18-5	water

**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.

**Carcinogeny categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Neutralization Solution (NSC)**

(Contd. of page 7)

**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:**

guanidinium chloride

Trade Secret 002-4036

**Hazard statements**

Harmful if swallowed.

Causes skin irritation.

Causes serious eye damage.

**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.

Immediately call a POISON CENTER/doctor.

Rinse mouth.

**If skin irritation occurs:** Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**National 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.

**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** 08/25/2017 / -

**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)

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Neutralization Solution (NSC)**

(Contd. of page 8)

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  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
**\* Data compared to the previous version altered.**

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**1 Identification**

**Product identifier**

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

**Article number:** A158

**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](mailto: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**



GHS02 Flame

Flam. Liq. 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).

**Hazard pictograms** GHS02, GHS07

**Signal word** Danger

**Hazard-determining components of labeling:**

guanidinium chloride

propan-2-ol

**Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 1)

*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.*

*If skin irritation occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*Take off contaminated clothing and wash it before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, 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 = 1*

*Fire = 3*

*Reactivity = 0*

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

*Health = 1*

*Fire = 3*

*Reactivity = 0*

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

*Irritant*

*Flammable*

**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** *Keep away from sources of ignition.*

**Results of PBT and vPvB assessment**

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 2)

### 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.

**Dangerous components:**

50-01-1	guanidinium chloride	37.0%
67-63-0	propan-2-ol	25-50%

**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

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

No further relevant information available.

### 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

**Advice for firefighters**

No special advice

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

US  
(Contd. on page 4)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 3)

## 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.

**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.

#### **67-63-0 propan-2-ol**

PEL	Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
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(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 4)

REL	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
TLV	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm
BEI	

**Ingredients with biological limit values:**

**67-63-0 propan-2-ol**

BEI	40 mg/L 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 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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Alcohol-like
<b>Odor threshold:</b>	Not determined.

**pH-value at 20°C (68 °F):** 5.2

**Change in condition**

**Melting point/Melting range:** Undetermined.

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 5)

<b>Boiling point/Boiling range:</b>	82°C (°F)
<b>Flash point:</b>	< 23°C (°F)
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	425°C (°F)
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard. Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	2 Vol %
<b>Upper:</b>	12 Vol %
<b>Vapor pressure at 20°C (68 °F):</b>	43 hPa (mm Hg)
<b>Density at 20°C (68 °F):</b>	1.05055 g/cm <sup>3</sup> (lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	35.0 %
<b>Water:</b>	28.0 %
<b>VOC content:</b>	35.00 %
<b>Solids content:</b>	37.0 %
<b>Other information</b>	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.

**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:**

**50-01-1 guanidinium chloride**

Oral	LD50	475 mg/kg (Rat)
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(Contd. on page 7)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 6)

Irritation of eyes	acute	500 mg (Rabbit) Severe Irritation
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**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)**

67-63-0 | propan-2-ol

3

**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 harmful to the aquatic environment**Persistence and degradability** Not available**Behavior in environmental systems:****Bioaccumulative potential** Not known**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:**

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

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

**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.

## 13 Disposal considerations

**Waste treatment methods****Recommendation:**

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

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

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

(Contd. on page 8)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

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

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## 14 Transport information

**UN-Number**

**DOT, ADR, IMDG, IATA**

UN1219

**UN proper shipping name**

**DOT**

Isopropanol solution

**ADR**

1219 Isopropanol solution

**IMDG, IATA**

ISOPROPANOL (ISOPROPYL ALCOHOL) solution

**Transport hazard class(es)**

**DOT**



**Class**

3 Flammable liquids

**Label**

3

**ADR**



**Class**

3 (F1) Flammable liquids

**Label**

3

**IMDG, IATA**



**Class**

3 Flammable liquids

**Label**

3

**Packing group**

**DOT, ADR, IMDG, IATA**

II

**Environmental hazards:**

**Marine pollutant:**

No

**Special precautions for user**

Warning: Flammable liquids

**Danger code (Kemler):**

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.

(Contd. on page 9)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

Trade name: Endotoxin Removal Wash (ERB)

(Contd. of page 8)

**Transport/Additional information:****ADR****Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**IMDG****Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

UN 1219 ISOPROPANOL 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 | propan-2-ol

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

All ingredients are listed.

**Proposition 65****Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

None of the ingredients are listed.

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

67-63-0 | propan-2-ol

A4

**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

propan-2-ol

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 9)

**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.**If skin irritation occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**Take off contaminated clothing and wash it before reuse.**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.***National 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.*

**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** *08/25/2017 / -***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: International 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*

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 10)

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  
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.**

US



**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/25/2017

**1 Identification**

**Product identifier**

**Trade name:** Column Wash Solution (CWC)

**Article number:** A159

**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](mailto: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**

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

**Label elements**

**GHS label elements** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

**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

**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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Column Wash Solution (CWC)**

**vPvB:** Not applicable.

(Contd. of page 1)

### 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.

**Dangerous components:** Void

**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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters**

No special advice

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.

See Section 13 for disposal information.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

Trade name: Column Wash Solution (CWC)

(Contd. of page 2)

## 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:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20°C (68 °F):** 8.2

#### Change in condition

<b>Melting point/Melting range:</b>	0°C (°F)
<b>Boiling point/Boiling range:</b>	100°C (°F)
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Not applicable.

(Contd. on page 4)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Column Wash Solution (CWC)**

(Contd. of page 3)

<b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Water:</b>	98.5 %
<b>VOC content:</b>	0.00 %
<b>Other information</b>	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:** 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:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Column Wash Solution (CWC)**

(Contd. of page 4)

### 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 harmful to the aquatic environment

**Persistence and degradability** Not available

### Behavior in environmental systems:

**Bioaccumulative potential** Not known

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

### Ecotoxicological effects:

**Remark:** Not available

### Additional ecological information:

**General notes:** Generally not hazardous for 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

**UN-Number** Not hazardous for transportation

**DOT, ADR, ADN, IMDG, IATA** Void

**UN proper shipping name** None

**DOT, ADR, ADN, IMDG, IATA** Void

**Transport hazard class(es)** None

**DOT, ADR, ADN, IMDG, IATA**

**Class** Void

**Packing group** None

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Column Wash Solution (CWC)**

(Contd. of page 5)

<b>DOT, ADR, IMDG, IATA</b>	Void
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

## 15 Regulatory information

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

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

All ingredients are listed.

**Proposition 65**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**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** Void

**Signal word** Void

**Hazard statements** Void

**National regulations:**

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

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

(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Column Wash Solution (CWC)**

(Contd. of page 6)

### 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** 08/25/2017 / -

**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.**

US

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/15/2017

**1 Identification**

**Product identifier**

**Trade name:** PureYield™ Collection Tubes -

**Article number:** A167

**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**

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

**Label elements**

**GHS label elements** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

**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

**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.

(Contd. on page 2)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/15/2017

Trade name: PureYield™ Collection Tubes -

(Contd. of page 1)

vPvB: Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS No. Description**

Article

### 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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters** No special advice

**Protective equipment:** No special measures required.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Not required.

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:** Pick up mechanically.

**Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

### 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.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/15/2017

**Trade name: PureYield™ Collection Tubes -**

(Contd. of page 2)

**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:** Not required.

**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.

**Eye protection:** Not required.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Solid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value:** Not applicable.

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Product is not flammable.

#### Ignition temperature:

**Decomposition temperature:** Not determined.

**Auto igniting:** Not determined.

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

#### Explosion limits:

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**Vapor pressure:** Not applicable.

**Density:** Not determined.

**Relative density** Not determined.

**Vapor density** Not applicable.

**Evaporation rate** Not applicable.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/15/2017

Trade name: PureYield™ Collection Tubes -

(Contd. of page 3)

**Solubility in / Miscibility with**

**Water:** Insoluble.  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
**Dynamic:** Not applicable.  
**Kinematic:** Not applicable.  
**VOC content:** 0.00 %

**Solids content:** 100.0 %  
**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** 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:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

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

Substance is not listed.

**NTP (National Toxicology Program)**

Substance is not listed.

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

Substance is not listed.

## 12 Ecological information

**Toxicity****Aquatic toxicity:** Not harmful to the aquatic environment**Persistence and degradability** Not available**Behavior in environmental systems:****Bioaccumulative potential** Not known

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/15/2017

**Trade name: PureYield™ Collection Tubes -**

(Contd. of page 4)

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:**

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

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

**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.

## \* 14 Transport information

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Void
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Void
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

US  
(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/15/2017

Trade name: PureYield™ Collection Tubes -

(Contd. of page 5)

## 15 Regulatory information

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

*Sara*

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

Substance is not listed.

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

Substance is not listed.

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

*This product contains a substance not listed on the TSCA inventory. This product may be used for R&D use only.*

**Proposition 65**

**Chemicals known to cause cancer:**

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

**Chemicals known to cause developmental toxicity:**

Substance is not listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

**GHS label elements** Void

**Signal word** Void

**Hazard statements** Void

**National 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.*

**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** 08/25/2017 / -

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/15/2017

**Trade name: PureYield™ Collection Tubes -**

(Contd. of page 6)

**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*

*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.**

US

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/07/2017

**1 Identification****Product identifier****Trade name:** PureYield™ Minicolumns -**Article number:** A166**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](mailto: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**

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

**Label elements****GHS label elements** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**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**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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/07/2017

**Trade name: PureYield™ Minicolumns -**

vPvB: Not applicable.

(Contd. of page 1)

### 3 Composition/information on ingredients

**Chemical characterization: Substances**  
**CAS No. Description**  
 Article

### 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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters** No special advice

**Protective equipment:** No special measures required.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Not required.

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:** Pick up mechanically.

**Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

### 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.

(Contd. on page 3)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/07/2017

**Trade name:** PureYield™ Minicolumns -

(Contd. of page 2)

**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:** Not required.

**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.

**Eye protection:** Not required.

## \* 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Solid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value:** Not applicable.

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Product is not flammable.

#### Ignition temperature:

**Decomposition temperature:** Not determined.

**Auto igniting:** Not determined.

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

#### Explosion limits:

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**Vapor pressure:** Not applicable.

**Density:** Not determined.

**Relative density** Not determined.

**Vapor density** Not applicable.

**Evaporation rate** Not applicable.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/07/2017

Trade name: PureYield™ Minicolumns -

(Contd. of page 3)

**Solubility in / Miscibility with**

**Water:** Insoluble.  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
**Dynamic:** Not applicable.  
**Kinematic:** Not applicable.  
**VOC content:** 0.00 %

**Solids content:** 100.0 %  
**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** 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:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

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

Substance is not listed.

**NTP (National Toxicology Program)**

Substance is not listed.

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

Substance is not listed.

## 12 Ecological information

**Toxicity****Aquatic toxicity:** Not harmful to the aquatic environment**Persistence and degradability** Not available**Behavior in environmental systems:****Bioaccumulative potential** Not known

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/07/2017

Trade name: PureYield™ Minicolumns -

(Contd. of page 4)

**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:**

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

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

**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.

## \* 14 Transport information

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Void
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Void
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/07/2017

Trade name: PureYield™ Minicolumns -

(Contd. of page 5)

## 15 Regulatory information

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

*Sara*

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

Substance is not listed.

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

Substance is not listed.

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

*This product contains a substance not listed on the TSCA inventory. This product may be used for R&D use only.*

**Proposition 65**

**Chemicals known to cause cancer:**

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

**Chemicals known to cause developmental toxicity:**

Substance is not listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

**GHS label elements** Void

**Signal word** Void

**Hazard statements** Void

**National 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.*

**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** 08/25/2017 / -

(Contd. on page 7)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 08/25/2017

Reviewed on 08/07/2017

**Trade name: PureYield™ Minicolumns -**

(Contd. of page 6)

**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: International 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*

*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.**

US

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/25/2017

**1 Identification****Product identifier****Trade name:** *Elution Buffer (EBB)***Article number:** A160A**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***The product is not classified as hazardous according to the Globally Harmonized System (GHS).***Label elements****GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***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***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.*

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

**vPvB:** Not applicable.

(Contd. of page 1)

### 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.

**Dangerous components:** Void

**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** Dizziness

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

No further relevant information available.

### \* 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters** No special advice

**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.

See Section 13 for disposal information.

### \* 7 Handling and storage

**Handling:**

**Precautions for safe handling** No special measures required.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 2)

**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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

<b>pH-value at 20°C (68 °F):</b>	8.5
----------------------------------	-----

**Change in condition**

<b>Melting point/Melting range:</b>	0°C (°F)
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.

<b>Flammability (solid, gaseous):</b>	Not applicable.
---------------------------------------	-----------------

**Ignition temperature:**

<b>Decomposition temperature:</b>	Not determined.
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<b>Auto igniting:</b>	Product is not selfigniting.
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<b>Danger of explosion:</b>	Product does not present an explosion hazard.
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(Contd. on page 4)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 3)

**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.**Water:** 99.8 %**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:** 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:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

**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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 4)

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

None of the ingredients are listed.

## \* 12 Ecological information

### Toxicity

**Aquatic toxicity:** Not harmful to the aquatic environment

**Persistence and degradability** Not available

**Behavior in environmental systems:**

**Bioaccumulative potential** Not known

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:** Generally not hazardous for 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

**UN-Number** Not hazardous for transportation

**DOT, ADR, ADN, IMDG, IATA** Void

**UN proper shipping name** None

**DOT, ADR, ADN, IMDG, IATA** Void

**Transport hazard class(es)** None

**DOT, ADR, ADN, IMDG, IATA**

**Class** Void

**Packing group** None

**DOT, ADR, IMDG, IATA** Void

### Environmental hazards:

**Marine pollutant:** No

**Special precautions for user** Not applicable.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 5)

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

**UN "Model Regulation":**                      *Void*

## \* 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.*

**Carcinogenity 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** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

**National regulations:**

**Water hazard class:** *Generally not 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*

(Contd. on page 7)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

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

(Contd. of page 6)

2800 Woods Hollow Road

Madison, WI

Ph:(608)274-4330

**Date of preparation / last revision** 08/25/2017 / -**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: International 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.**

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/25/2017

**1 Identification**

**Product identifier**

**Trade name:** GoTaq® Hot Start Polymerase

**Article number:** M500

**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](mailto: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**

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

**Label elements**

**GHS label elements** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

**Classification system:**

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

Health = 0

Fire = 1

Reactivity = 0

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

Health = 1

Fire = 1

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** Not applicable

**Target Organ(s):** May cause Kidney damage (Nephrotoxin)

**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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: GoTaq® Hot Start Polymerase**

vPvB: Not applicable.

(Contd. of page 1)

### 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.

**Dangerous components:**

56-81-5	glycerol	50-75%
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**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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters**

No special advice

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.

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).

**Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 08/25/2017

**Trade name: GoTaq® Hot Start Polymerase**

(Contd. of page 2)

See Section 13 for disposal information.

## 7 Handling and storage

### Handling:

**Precautions for safe handling** No special measures required.

**Information about protection against explosions and fires:** No special measures required.

**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:**

**56-81-5 glycerol**

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> mist; *total dust **respirable fraction
-----	---

TLV	TLV withdrawn-insufficient data human occup. exp.
-----	---

**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:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

<b>pH-value at 20°C (68 °F):</b>	8
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#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
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(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: GoTaq® Hot Start Polymerase**

(Contd. of page 3)

<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	> 100°C (°F)
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	400°C (°F)
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	0.9 Vol %
<b>Upper:</b>	0.0 Vol %
<b>Vapor pressure at 20°C (68 °F):</b>	0.1 hPa (mm Hg)
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	50.6 %
<b>Water:</b>	47.5 %
<b>VOC content:</b>	0.00 %
<b>Other information</b>	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:** Irritating effect.

**Sensitization:** No sensitizing effects known.

(Contd. on page 5)

US



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: GoTaq® Hot Start Polymerase**

(Contd. of page 4)

**Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

**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 harmful to the aquatic environment

**Persistence and degradability** Not available

**Behavior in environmental systems:**

**Bioaccumulative potential** Not known

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:****General notes:**

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

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

**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

**UN-Number**

Not hazardous for transportation

**DOT, ADR, ADN, IMDG, IATA**

Void

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: GoTaq® Hot Start Polymerase**

(Contd. of page 5)

**UN proper shipping name** None  
**DOT, ADR, ADN, IMDG, IATA** Void

**Transport hazard class(es)** None  
**DOT, ADR, ADN, IMDG, IATA Class** Void

**Packing group** None  
**DOT, ADR, IMDG, IATA** Void

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

**Special precautions for user** Not applicable.

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

**UN "Model Regulation":** Void

## 15 Regulatory information

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

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

All ingredients are listed.

**Proposition 65**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**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** Void

**Signal word** Void

(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: GoTaq® Hot Start Polymerase**

(Contd. of page 6)

**Hazard statements** Void

**National 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.*

**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** 08/25/2017 / -

**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.**

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/11/2016

\* **1 Identification**

**Product identifier**

**Trade name:** *5X Colorless GoTaq® Flexi Buffer*

**Article number:** M890

**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**

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

**Label elements**

**GHS label elements** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

**Classification system:**

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

*Health = 0*

*Fire = 1*

*Reactivity = 0*

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

*Health = 0*

*Fire = 1*

*Reactivity = 0*

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** *Not applicable*

**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.*

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/11/2016

**Trade name: 5X Colorless GoTaq® Flexi Buffer**

**vPvB:** Not applicable.

(Contd. of page 1)

### 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.

**Dangerous components:** Void

**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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters** No special advice

**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.

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).

**Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/11/2016

Trade name: 5X Colorless GoTaq® Flexi Buffer

(Contd. of page 2)

## 7 Handling and storage

### Handling:

**Precautions for safe handling** No special measures required.

**Information about protection against explosions and fires:** No special measures required.

**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:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20°C (68 °F):** 8.5

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	> 100°C (°F)

**Flammability (solid, gaseous):** Not applicable.

(Contd. on page 4)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/11/2016

Trade name: 5X Colorless GoTaq® Flexi Buffer

(Contd. of page 3)

**Ignition temperature:****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):**1.203 g/cm<sup>3</sup> (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:** 43.7 %**VOC content:** 0.00 %**Solids content:** 56.3 %**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:** 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:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/11/2016

Trade name: 5X Colorless GoTaq® Flexi Buffer

(Contd. of page 4)

**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 harmful to the aquatic environment**Persistence and degradability** Not available**Behavior in environmental systems:****Bioaccumulative potential** Not known**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:**

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

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

**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****UN-Number**

Not hazardous for transportation

**DOT, ADR, ADN, IMDG, IATA**

Void

**UN proper shipping name**

None

**DOT, ADR, ADN, IMDG, IATA**

Void

**Transport hazard class(es)**

None

(Contd. on page 6)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/11/2016

Trade name: 5X Colorless GoTaq® Flexi Buffer

(Contd. of page 5)

**DOT, ADR, ADN, IMDG, IATA**

Class Void

**Packing group**

None

**DOT, ADR, IMDG, IATA**

Void

**Environmental hazards:****Marine pollutant:** No**Special precautions for user**

Not applicable.

**Transport in bulk according to Annex II of****MARPOL73/78 and the IBC Code** Not applicable.**UN "Model Regulation":**

Void

## 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):**

7783-20-2 ammonium sulphate

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

All ingredients are listed.

**Proposition 65****Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

None of the ingredients are listed.

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

57-50-1 sucrose, pure

A4

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

None of the ingredients are listed.

**GHS label elements** Void**Signal word** Void**Hazard statements** Void**National regulations:****Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/11/2016

**Trade name: 5X Colorless GoTaq® Flexi Buffer**

(Contd. of page 6)

**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** 08/25/2017 / -

**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.**

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/25/2017

**1 Identification****Product identifier****Trade name:** *5X Green GoTaq® Flexi Buffer***Article number:** *M891***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***The product is not classified as hazardous according to the Globally Harmonized System (GHS).***Label elements****GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***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***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.*

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: 5X Green GoTaq® Flexi Buffer**

**vPvB:** Not applicable.

(Contd. of page 1)

### 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.

**Dangerous components:** Void

**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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters** No special advice

**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.

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).

**Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

Trade name: 5X Green GoTaq® Flexi Buffer

(Contd. of page 2)

## 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:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

<b>pH-value at 20°C (68 °F):</b>	8.5
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#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.

<b>Flammability (solid, gaseous):</b>	Not applicable.
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(Contd. on page 4)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: 5X Green GoTaq® Flexi Buffer**

(Contd. of page 3)

**Ignition temperature:**

**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):**

1.203 g/cm<sup>3</sup> (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:** 43.5 %

**VOC content:** 0.00 %

**Solids content:** 56.5 %

**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:** 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:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: 5X Green GoTaq® Flexi Buffer**

(Contd. of page 4)

### Carcinogenic categories

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

129-17-9	hydrogen [4-[4-(diethylamino)-2',4'-disulphonatobenzhydrylidene]cyclohexa-2,5-dien-1-ylidene] diethylammonium, sodium salt	3
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#### 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 harmful to the aquatic environment

**Persistence and degradability:** Not available

**Behavior in environmental systems:**

**Bioaccumulative potential:** Not known

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:**

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

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

**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

<b>UN-Number</b>	Not hazardous for transportation
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<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
----------------------------------	------

<b>UN proper shipping name</b>	None
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<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
----------------------------------	------

<b>Transport hazard class(es)</b>	None
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# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: 5X Green GoTaq® Flexi Buffer**

(Contd. of page 5)

**DOT, ADR, ADN, IMDG, IATA**

<b>Class</b>	Void
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Void
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

## 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):**

7783-20-2 | ammonium sulphate

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

All ingredients are listed.

**Proposition 65****Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

None of the ingredients are listed.

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

57-50-1 | sucrose, pure

A4

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

None of the ingredients are listed.

**GHS label elements** Void**Signal word** Void**Hazard statements** Void**National regulations:****Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

(Contd. on page 7)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: 5X Green GoTaq® Flexi Buffer**

(Contd. of page 6)

**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** 08/25/2017 / -

### **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: International 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.**

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 08/25/2017

Reviewed on 08/25/2017

**1 Identification****Product identifier****Trade name:** Magnesium Chloride Solution, 25mM**Article number:** A351**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](mailto: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**

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

**Label elements****GHS label elements** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**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**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.

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Magnesium Chloride Solution, 25mM**

**vPvB:** Not applicable.

(Contd. of page 1)

### 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.

**Dangerous components:** Void

**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** Dizziness

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

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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

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

**Advice for firefighters** No special advice

**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.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling:**

**Precautions for safe handling** No special measures required.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Magnesium Chloride Solution, 25mM**

(Contd. of page 2)

**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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20°C (68 °F):** 7

**Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 100°C (°F)

**Flash point:** Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:**

**Decomposition temperature:** Not determined.

**Auto igniting:** Product is not selfigniting.

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

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Magnesium Chloride Solution, 25mM**

(Contd. of page 3)

**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.**Water:** 100.0 %**VOC content:** 0.00 %**Solids content:** 0.1 %**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:** 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:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

**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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Magnesium Chloride Solution, 25mM**

(Contd. of page 4)

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

None of the ingredients are listed.

## \* 12 Ecological information

### Toxicity

**Aquatic toxicity:** Not harmful to the aquatic environment

**Persistence and degradability** Not available

**Behavior in environmental systems:**

**Bioaccumulative potential** Not known

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

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:** Generally not hazardous for 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

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Void
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Void
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Magnesium Chloride Solution, 25mM**

(Contd. of page 5)

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

**UN "Model Regulation":**                      *Void*

## \* 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.*

**Carcinogeny 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** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

**National regulations:**

**Water hazard class:** *Generally not 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*

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 08/25/2017

Reviewed on 08/25/2017

**Trade name: Magnesium Chloride Solution, 25mM**

(Contd. of page 6)

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision 08/25/2017 / -****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 &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

**\* Data compared to the previous version altered.**

US