

Product code	Description
<b>A1751</b>	<b>ReliaPrep™ Large Volume HT gDNA Isolation System, 96 prep</b>

## Components:

A505A	Proteinase K (PK) Solution
A172A	Alkaline Protease (APA)
MC5011	Lysis Buffer
A175	ReliaPrep™ Resin
A176	Wash Buffer (WBA)
A174	Binding Buffer (BBA)
P119	Nuclease-Free Water



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

Printing date 01/09/2014

Reviewed on 12/06/2013

**1 Identification**

**Product identifier**

**Trade name:** Proteinase K (PK) Solution

**Article number:** A505A

**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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**

**Classification according to the Hazard Communication Standard (HCS)**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the CLP regulation.

**Hazard pictograms** GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Proteinase, Tritirachium album serine

**Hazard statements**

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Precautionary statements**

P284 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

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**Trade name: Proteinase K (PK) Solution**

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**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):**

Irritant

Sensitizer

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

Inhalation

Oral

**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.**vPvB:** Not applicable.

### \* 3 Composition/information on ingredients

**Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

56-81-5	glycerol	25-50%
39450-01-6	Proteinase, Tritirachium album serine	<2.50%

### \* 4 First-aid measures

**Description of first aid measures****After inhalation:**

Supply fresh air and to be sure call for a doctor.

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

**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 symptoms persist consult doctor.**Information for doctor:****Most important symptoms and effects, both acute and delayed** Allergic reactions**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.

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acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/06/2013

**Trade name: Proteinase K (PK) Solution**

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**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** 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.

Work only in fume cabinet.

**Information about protection against explosions and fires:** Keep respiratory protective device available.

**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>

\*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:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not eat or drink while working.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/06/2013

**Trade name: Proteinase K (PK) Solution**

(Contd. of page 3)

**Breathing equipment:**

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

**Protection of hands:**

Protective gloves

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

**Material of gloves**

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

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

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

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

**pH-value at 20 °C (68 °F):** 7.2

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	> 100 °C (> 212 °F)

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

**Ignition temperature:** 400 °C (752 °F)

**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>	0.9 Vol %
<b>Upper:</b>	Not determined.
<b>Vapor pressure at 20 °C (68 °F):</b>	0.1 hPa

**Density:** Not determined.

**Relative density** Not determined.

**Vapour 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.

#### Solvent content:

**Organic solvents:** 50.0 %

**Water:** 47.8 %

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# Safety Data Sheet

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Reviewed on 12/06/2013

**Trade name: Proteinase K (PK) Solution**

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**Other information**

No further relevant information available.

## \* 10 Stability and reactivity

**Reactivity****Chemical stability****Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

## \* 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:** Sensitization possible through inhalation.**Additional toxicological information:**

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

Harmful

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

None of the ingredients are listed.

**NTP (National Toxicology Program)**

None of the ingredients are listed.

## \* 12 Ecological information

**Toxicity****Aquatic toxicity:** Not 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.

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**Trade name: Proteinase K (PK) Solution**

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

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## 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>	None
<b>UN proper shipping name</b>	None
<b>Transport hazard class(es)</b>	None
<b>Packing group</b>	None
<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.

## 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):

56-81-5	glycerol
1185-53-1	2-Amino-2-(hydroxymethyl)-1,3-propanediolhydrochloride
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.

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Reviewed on 12/06/2013

**Trade name: Proteinase K (PK) Solution**

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**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.

**Cancerogeny categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

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

None of the ingredients are listed.

**MAK (German Maximum Workplace Concentration)**

10043-52-4 Calcium chloride

OEL

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**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 MSDS:**

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Abbreviations and acronyms:**

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

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

Printing date 01/09/2014

Reviewed on 01/09/2014

**1 Identification**

**Product identifier**

**Trade name:** Alkaline Protease (APA)

**Article number:** A172A

**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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**

**Classification according to the Hazard Communication Standard (HCS)**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Repr. 1A H360 May damage fertility or the unborn child.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the CLP regulation.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Alkaline Protease (APA)**

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**Hazard pictograms** GHS05, GHS07, GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Subtilisin

disodium tetraborate, anhydrous

**Hazard statements**

H315 Causes skin irritation.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H360 May damage fertility or the unborn child.

H335 May cause respiratory irritation.

**Precautionary statements**

P284 In case of inadequate ventilation wear respiratory protection.

P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

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

Health = 2

Fire = 0

Reactivity = 0

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

Health = \*2

Fire = 0

Reactivity = 0

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

Toxic

Irritant

Sensitizer

Reproductive Hazard

Not applicable

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

Dermal

Inhalation

Oral

**Target Organ(s):**

Not applicable or unknown

Risk of damage to eyes

**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.

USA

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: Alkaline Protease (APA)

(Contd. of page 2)

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

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

**Dangerous components:**

57-55-6	propane-1,2-diol	20-25%
	Subtilisin	20-25%
1330-43-4	disodium tetraborate, anhydrous	1.0-5.0%

**SVHC**

1330-43-4	disodium tetraborate, anhydrous
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### 4 First-aid measures

**Description of first aid measures**

**After inhalation:**

Supply fresh air and to be sure call for a doctor.

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

**After swallowing:** If symptoms persist consult doctor.

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed** Allergic reactions

**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

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

### 6 Accidental release measures

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

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**Trade name: Alkaline Protease (APA)**

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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.

Work only in fume cabinet.

#### Information about protection against explosions and fires:

Keep respiratory protective device available.

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:

##### 57-55-6 propane-1,2-diol

WEEL () Long-term value: 10 mg/m<sup>3</sup>

##### Subtilisin

REL () Short-term value: 0.00006\* mg/m<sup>3</sup>  
\*60-min

TLV () Long-term value: C 0.00006 mg/m<sup>3</sup>  
as crystalline active enzyme

##### 1330-43-4 disodium tetraborate, anhydrous

REL () Long-term value: 1 mg/m<sup>3</sup>  
anhydrous

TLV () Short-term value: 6\* mg/m<sup>3</sup>  
Long-term value: 2\* mg/m<sup>3</sup>  
\*as inhalable fraction

**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 skin.

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Alkaline Protease (APA)**

(Contd. of page 4)

**Breathing equipment:**

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

**Protection of hands:**

Protective gloves

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

**Material of gloves**

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

**Eye protection:** Tightly sealed goggles

## 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>	Characteristic
<b>Odour threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 6.3

**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	Not applicable.

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

**Ignition temperature:** 371 °C (700 °F)

**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>	2.6 Vol %
<b>Upper:</b>	12.6 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	0.1 hPa

**Density at 20 °C (68 °F):** 1.057 g/cm<sup>3</sup> (8.821 lbs/gal)

**Relative density** Not determined.

**Vapour 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.

**Solvent content:**

**Organic solvents:** 25.0 %

**Water:** 46.8 %

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USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Alkaline Protease (APA)**

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<b>VOC content:</b>	25.0 %
<b>Solids content:</b>	3.2 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

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

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

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

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

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

## 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

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

##### Subtilisin

Oral	LD50	2000 mg/kg (Rat)
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##### 1330-43-4 disodium tetraborate, anhydrous

Oral	LD50	2660 mg/kg (Rat)
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#### Primary irritant effect:

**on the skin:** Irritant to skin and mucous membranes.

#### on the eye:

Strong irritant with the danger of severe eye injury.

Irritating effect.

**Sensitization:** Sensitization possible through inhalation.

#### Additional toxicological information:

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

Harmful

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.

## 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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Alkaline Protease (APA)**

(Contd. of page 6)

**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>	None
<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.
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<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
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<b>UN "Model Regulation":</b>	-
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USA

(Contd. on page 8)



# Safety Data Sheet

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Reviewed on 01/09/2014

Trade name: Alkaline Protease (APA)

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## 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)**

1330-43-4 disodium tetraborate, anhydrous

A4

**MAK (German Maximum Workplace Concentration)**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**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 MSDS:**

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Alkaline Protease (APA)**

(Contd. of page 8)

**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*

*GHS: Globally Harmonized System of Classification and Labeling of Chemicals*

*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*

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

USA

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

Printing date 01/09/2014

Reviewed on 12/19/2013

\* **1 Identification**

**Product identifier**

**Trade name:** Lysis Buffer

**Article number:** MC5011

**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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**

**Classification according to the Hazard Communication Standard (HCS)**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the CLP regulation.

**Hazard pictograms** GHS07

**Signal word** Warning

**Hazard-determining components of labeling:**

guanidinium chloride

**Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

(Contd. on page 2)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/19/2013

**Trade name: Lysis Buffer**

(Contd. of page 1)

**Precautionary statements**

- P280** Wear protective gloves/protective clothing/eye protection/face protection.  
**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P321** Specific treatment (see on this label).  
**P362** Take off contaminated clothing and wash before reuse.  
**P301+P312** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Health = 2

Fire = 1

Reactivity = 0

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

Health = 2

Fire = 1

Reactivity = 0

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

Toxic

Irritant

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

Dermal

Oral

**Target Organ(s):**

May affect Nervous system (Neurotoxin)

May cause behavioral changes

May affect Bones

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

50-01-1	guanidinium chloride	25-50%
57-13-6	urea	25-50%
151-21-3	sodium dodecyl sulphate	<2.00%

### \* 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:** Supply fresh air; consult doctor in case of complaints.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/19/2013

**Trade name: Lysis Buffer**

(Contd. of page 2)

**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** None

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

No further relevant information available.

## \* 5 Fire-fighting measures

**Extinguishing media****Suitable extinguishing agents:**

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** 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.

**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:** Keep receptacle tightly sealed.

(Contd. on page 4)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/19/2013

Trade name: *Lysis Buffer*

(Contd. of page 3)

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:

57-13-6 urea

WEEL Long-term value: 10 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:

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

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

#### Material of gloves

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

Eye protection: Tightly sealed goggles

## 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>	Characteristic
<b>Odour threshold:</b>	Not determined.

pH-value at 20 °C (68 °F): 6.4

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	> 100 °C (> 212 °F)

Flammability (solid, gaseous): Not applicable.

#### Ignition temperature:

Decomposition temperature: Not determined.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/19/2013

Trade name: *Lysis Buffer*

(Contd. of page 4)

<b>Auto igniting:</b>	<i>Product is not selfigniting.</i>
<b>Danger of explosion:</b>	<i>Product does not present an explosion hazard.</i>
<b>Explosion limits:</b>	
<b>Lower:</b>	<i>Not determined.</i>
<b>Upper:</b>	<i>Not determined.</i>
<b>Vapor pressure:</b>	<i>Not determined.</i>
<b>Density:</b>	<i>Not determined.</i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not determined.</i>
<b>Evaporation rate</b>	<i>Not determined.</i>
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	<i>Fully miscible.</i>
<b>Partition coefficient (n-octanol/water):</b>	<i>Not determined.</i>
<b>Viscosity:</b>	
<b>Dynamic:</b>	<i>Not determined.</i>
<b>Kinematic:</b>	<i>Not determined.</i>
<b>Solvent content:</b>	
<b>Organic solvents:</b>	<i>0.0 %</i>
<b>Water:</b>	<i>25.1 %</i>
<b>Other information</b>	<i>No further relevant information available.</i>

## \* 10 Stability and reactivity

**Reactivity****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**

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

**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*

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/19/2013

Trade name: Lysis Buffer

(Contd. of page 5)

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

None of the ingredients are listed.

**NTP (National Toxicology Program)**

None of the ingredients are listed.

\* **12 Ecological information****Toxicity****Aquatic toxicity:** Not 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 None

UN proper shipping name None

Transport hazard class(es) None

Packing group None

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

(Contd. on page 7)

USA



# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/19/2013

Trade name: Lysis Buffer

(Contd. of page 6)

**Special precautions for user**                      *Not applicable.*

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

## \* 15 Regulatory information

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

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

*None of the ingredients are listed.*

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

*None of the ingredients are listed.*

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

*All ingredients are listed.*

**Proposition 65**

**Chemicals known to cause cancer:**

*None of the ingredients are listed.*

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

*None of the ingredients are listed.*

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

*None of the ingredients are listed.*

**Chemicals known to cause developmental toxicity:**

*None of the ingredients are listed.*

**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.*

**MAK (German Maximum Workplace Concentration)**

10043-52-4 | Calcium chloride

OEL

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

*None of the ingredients are listed.*

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

*None of the ingredients are listed.*

**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.*

(Contd. on page 8)

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

Printing date 01/09/2014

Reviewed on 12/19/2013

**Trade name: Lysis Buffer**

(Contd. of page 7)

**Department issuing MSDS:***Promega Corporation**Environmental Health and Safety Department**2800 Woods Hollow Road**Madison, WI**Ph: (608)274-4330***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)**GHS: Globally Harmonized System of Classification and Labeling of Chemicals**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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent***\* Data compared to the previous version altered.**

USA

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

Printing date 01/09/2014

Reviewed on 01/09/2014

**1 Identification**

**Product identifier**

**Trade name:** ReliaPrep™ Resin

**Article number:** A175

**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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**

**Classification according to the Hazard Communication Standard (HCS)**

The product is not classified as hazardous according to the HCS regulation.

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008** 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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: ReliaPrep™ Resin**

(Contd. of page 1)

### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### Chemical characterization: Mixtures

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

#### Dangerous components:

9004-34-6	Cellulose	5-10%
1309-37-1	diiron trioxide	5-10%

## 4 First-aid measures

### Description of first aid measures

**General information:** No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

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

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

**After swallowing:** If symptoms persist consult doctor.

### Information for doctor:

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

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

No further relevant information available.

## 5 Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing agents:

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.

USA

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: ReliaPrep™ Resin

(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:**

#### 9004-34-6 Cellulose

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

REL ( ) Long-term value: 10\* 5\*\* mg/m<sup>3</sup>  
\*total dust \*\*respirable fraction

TLV ( ) Long-term value: 10 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:

The usual precautionary measures for handling chemicals should be followed.

**Breathing equipment:** Not required.

#### Protection of hands:

Protective gloves

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

#### Material of gloves

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

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

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

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

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
-------------------------------------	---------------

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: ReliaPrep™ Resin

(Contd. of page 3)

<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	340 °C (644 °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>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density at 20 °C (68 °F):</b>	1.00177 g/cm <sup>3</sup> (8.36 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	87.5 %
<b>Solids content:</b>	0.1 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

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

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

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

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

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

## 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)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: ReliaPrep™ Resin

(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)**

1309-37-1 diiron trioxide

3

**NTP (National Toxicology Program)**

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>	None
<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

(Contd. on page 6)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: ReliaPrep™ Resin

(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":**

-

## 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)**

1309-37-1 diiron trioxide

A4

26628-22-8 sodium azide

A4

**MAK (German Maximum Workplace Concentration)**

None of the ingredients are listed.

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

None of the ingredients are listed.

(Contd. on page 7)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: ReliaPrep™ Resin**

(Contd. of page 6)

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

None of the ingredients are listed.

**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 MSDS:**

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**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*

*GHS: Globally Harmonized System of Classification and Labeling of Chemicals*

*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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

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

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

Printing date 01/09/2014

Reviewed on 01/09/2014

**1 Identification**

**Product identifier**

**Trade name:** Wash Buffer (WBA)

**Article number:** A176

**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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**

**Classification according to the Hazard Communication Standard (HCS)**

The product is not classified as hazardous according to the HCS regulation.

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008** 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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Wash Buffer (WBA)**

(Contd. of page 1)

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### \* 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

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

**Dangerous components:**

57-55-6	propane-1,2-diol	50-75%
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### \* 4 First-aid measures

**Description of first aid measures**

**General information:** No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

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

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

**After swallowing:** If symptoms persist consult doctor.

**Information for doctor:**

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

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

No further relevant information available.

### \* 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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.

See Section 13 for disposal information.

USA

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: Wash Buffer (WBA)

(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:**

57-55-6 propane-1,2-diol

WEEL ()	Long-term value: 10 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:

The usual precautionary measures for handling chemicals should be followed.

**Breathing equipment:** Not required.

#### Protection of hands:

Protective gloves

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

#### Material of gloves

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

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

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Characteristic
<b>Odour 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>	100 °C (212 °F)
<b>Flash point:</b>	> 100 °C (> 212 °F)

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: Wash Buffer (WBA)

(Contd. of page 3)

<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	371 °C (700 °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>	2.6 Vol %
<b>Upper:</b>	12.6 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	0.1 hPa
<b>Density at 20 °C (68 °F):</b>	1.05476 g/cm <sup>3</sup> (8.802 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	59.4 %
<b>Water:</b>	37.5 %
<b>VOC content:</b>	59.4 %
<b>Solids content:</b>	2.9 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

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

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

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

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

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

## 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)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: Wash Buffer (WBA)

(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.

## 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>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void

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

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: Wash Buffer (WBA)

(Contd. of page 5)

<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA 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>	-

## 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.

**MAK (German Maximum Workplace Concentration)**

None of the ingredients are listed.

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

None of the ingredients are listed.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Wash Buffer (WBA)**

(Contd. of page 6)

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

None of the ingredients are listed.

**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 MSDS:**

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**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

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

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

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



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

Printing date 01/09/2014

Reviewed on 01/09/2014

**1 Identification****Product identifier****Trade name:** Binding Buffer (BBA)**Article number:** A174**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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****Classification according to the Hazard Communication Standard (HCS)**

The product is not classified as hazardous according to the HCS regulation.

**Label elements****Labelling according to Regulation (EC) No 1272/2008** 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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Binding Buffer (BBA)**

(Contd. of page 1)

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### \* 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

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

**Dangerous components:**

25322-68-3	Polyethylene Glycol	15-20%
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### \* 4 First-aid measures

**Description of first aid measures**

**General information:** No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

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

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

**After swallowing:** If symptoms persist consult doctor.

**Information for doctor:**

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

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

No further relevant information available.

### \* 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

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.

USA

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: Binding Buffer (BBA)

(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:**

25322-68-3 Polyethylene Glycol

WEEL ()	Long-term value: 10 mg/m <sup>3</sup> (H); MW>200
---------	--

**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:**

Protective gloves

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

**Material of gloves**

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

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

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

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

<b>pH-value at 20 °C (68 °F):</b>	6.3
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#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: **Binding Buffer (BBA)**

(Contd. of page 3)

<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density at 20 °C (68 °F):</b>	1.07 g/cm <sup>3</sup> (8.929 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	69.3 %
<b>Solids content:</b>	22.3 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

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

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

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

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

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

## 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)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Binding Buffer (BBA)**

(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.

## \* 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>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void

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

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

Trade name: **Binding Buffer (BBA)**

(Contd. of page 5)

<b>Transport hazard class(es)</b>	None
-----------------------------------	------

<b>DOT, ADR, ADN, IMDG, IATA 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.
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<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
--	-----------------

<b>UN "Model Regulation":</b>	-
-------------------------------	---

## 15 Regulatory information

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

<b>Section 355 (extremely hazardous substances):</b>	
--	--

None of the ingredients are listed.
-------------------------------------

<b>Section 313 (Specific toxic chemical listings):</b>	
--	--

None of the ingredients are listed.
-------------------------------------

<b>TSCA (Toxic Substances Control Act):</b>	
---	--

All ingredients are listed.
-----------------------------

**Proposition 65**

<b>Chemicals known to cause cancer:</b>	
---	--

None of the ingredients are listed.
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<b>Chemicals known to cause reproductive toxicity for females:</b>	
--	--

None of the ingredients are listed.
-------------------------------------

<b>Chemicals known to cause reproductive toxicity for males:</b>	
--	--

None of the ingredients are listed.
-------------------------------------

<b>Chemicals known to cause developmental toxicity:</b>	
---	--

None of the ingredients are listed.
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**Carcinogenicity categories**

<b>EPA (Environmental Protection Agency)</b>	
--	--

None of the ingredients are listed.
-------------------------------------

<b>TLV (Threshold Limit Value established by ACGIH)</b>	
---	--

None of the ingredients are listed.
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<b>MAK (German Maximum Workplace Concentration)</b>	
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None of the ingredients are listed.
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<b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
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None of the ingredients are listed.
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(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 01/09/2014

**Trade name: Binding Buffer (BBA)**

(Contd. of page 6)

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

None of the ingredients are listed.

**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 MSDS:**

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**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*

*GHS: Globally Harmonized System of Classification and Labeling of Chemicals*

*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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

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

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

Printing date 01/09/2014

Reviewed on 12/10/2013

**1 Identification****Product identifier****Trade name:** Nuclease-Free Water**Article number:** P119**CAS Number:**

7732-18-5

**EC number:**

231-791-2

**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**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****Classification according to the Hazard Communication Standard (HCS)**

The substance is not classified as hazardous according to the HCS regulation.

**Label elements****Labelling according to Regulation (EC) No 1272/2008** 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

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USA



# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/10/2013

**Trade name: Nuclease-Free Water**

(Contd. of page 1)

**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: Substances****CAS No. Description**

7732-18-5 water

**Identification number(s)**

**EC number:** 231-791-2

### \* 4 First-aid measures

**Description of first aid measures**

**General information:** No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

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

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

**After swallowing:** If symptoms persist consult doctor.

**Information for doctor:**

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

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

No further relevant information available.

### \* 5 Fire-fighting measures

**Extinguishing media****Suitable extinguishing agents:**

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.

USA

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/10/2013

Trade name: Nuclease-Free Water

(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:** 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:

Protective gloves

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

#### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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

## 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>	Odorless
<b>Odour threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 7

#### Change in condition

<b>Melting point/Melting range:</b>	0 °C (32 °F)
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	Not applicable.

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

#### Ignition temperature:

**Decomposition temperature:** Not determined.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/10/2013

Trade name: *Nuclease-Free Water*

(Contd. of page 3)

<b>Auto igniting:</b>	<i>Not determined.</i>
<b>Danger of explosion:</b>	<i>Product does not present an explosion hazard.</i>
<b>Explosion limits:</b>	
<b>Lower:</b>	<i>Not determined.</i>
<b>Upper:</b>	<i>Not determined.</i>
<b>Vapor pressure:</b>	<i>Not determined.</i>
<b>Density at 20 °C (68 °F):</b>	<i>1 g/cm<sup>3</sup> (8.345 lbs/gal)</i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not determined.</i>
<b>Evaporation rate</b>	<i>Not determined.</i>
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	<i>Fully miscible.</i>
<b>Partition coefficient (n-octanol/water):</b>	<i>Not determined.</i>
<b>Viscosity:</b>	
<b>Dynamic:</b>	<i>Not determined.</i>
<b>Kinematic:</b>	<i>Not determined.</i>
<b>Organic solvents:</b>	<i>0.0 %</i>
<b>Water:</b>	<i>100.0 %</i>
<b>Other information</b>	<i>No further relevant information available.</i>

## \* 10 Stability and reactivity

### **Reactivity**

#### **Chemical stability**

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

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

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

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

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

## \* 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.*

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USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/10/2013

**Trade name: Nuclease-Free Water**

(Contd. of page 4)

**NTP (National Toxicology Program)**

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

**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** None

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

**UN proper shipping name** None

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

**ADN**

**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

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**Trade name: Nuclease-Free Water**

(Contd. of page 5)

**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":**                      *-*

## 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):**

*Substance is listed.*

**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.*

**MAK (German Maximum Workplace Concentration)**

*Substance is not listed.*

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

*Substance is not listed.*

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

*Substance is not listed.*

**National regulations:**

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

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

USA

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/09/2014

Reviewed on 12/10/2013

**Trade name: Nuclease-Free Water**

(Contd. of page 6)

## 16 Other information

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*Promega Corporation*

*Environmental Health and Safety Department*

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USA