

Kit components

Product MagaZorb® DNA 50

Product code MB1001

Substance number	Description	Amount	Symbols
MC5001	Proteinase K (PK) Solution	1	Xn
MC5011	Lysis Buffer	1	Xn
MC5021	Binding Buffer	1	-
MC5031	MagaZorb® Reagent	1	-
MC5041	Wash Buffer	1	-
MC5051	Elution Buffer	1	-

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/04/2011

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

Product identifier

Trade name: Proteinase K (PK) Solution

Article number: MC5001

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

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

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

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

Emergency telephone number:

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

2 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

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

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

3 Hazards identification

Classification of the substance or mixture

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



Harmful

May cause sensitization by inhalation.

Classification system:

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

Label elements

Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals.

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

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acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/04/2011

Trade name: Proteinase K (PK) Solution

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Code letter and hazard designation of product:

Xn Harmful

Hazard-determining components of labelling:

Proteinase, Tritirachium album serine

Risk phrases:

May cause sensitization by inhalation.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Wear suitable protective clothing.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

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

* 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.

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Reviewed on 02/04/2011

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

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5 Firefighting measures

Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture None known

6 Accidental release measures

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

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

Methods and material for containment and cleaning up:

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 13 for disposal information.

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	15* 5** mg/m ³ *total dust **respirable fraction
TLV	10* ppm *Mist

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.

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Reviewed on 02/04/2011

Trade name: Proteinase K (PK) Solution

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Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not eat or drink while working.

Breathing equipment:

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

Protection of hands:

Protective gloves

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

Material of gloves

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

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 7.2

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

Flash point: > 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:

Lower:	0.9 Vol %
Upper:	Not determined.

Vapor pressure at 20°C (68 °F): 0.1 hPa

Density: Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

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

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Reviewed on 02/04/2011

Trade name: Proteinase K (PK) Solution

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Viscosity:**Dynamic:** Not determined.**Kinematic:** Not determined.**Solvent content:****Organic solvents:** 50.0 %**Water:** 47.8 %**VOC content:** 50.0 %**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

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

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Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

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.

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, pure

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.

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Reviewed on 02/04/2011

Trade name: Proteinase K (PK) Solution

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IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

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.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

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

Hazard symbols:

Xn Harmful

Hazard-determining components of labelling:

Proteinase, Tritirachium album serine

Risk phrases:

May cause sensitization by inhalation.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Wear suitable protective clothing.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
Wasser	47.8
I	2.0
NK	50.0

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

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

16 Other information

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

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/29/2011

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

Product identifier

Trade name: Lysis Buffer

Article number: MC5011

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

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

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

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

Emergency telephone number:

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

2 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

50-01-1	guanidinium chloride	25-50%
57-13-6	urea	25-50%
139-33-3	disodium dihydrogenethylenediaminetetraacetate	<2.00%
151-21-3	sodium dodecyl sulphate	<2.00%

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

3 Hazards identification

Classification of the substance or mixture

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

 Harmful

Harmful if swallowed. Possible risk of harm to the unborn child.

 Irritant

Irritating to eyes and skin.

Classification system:

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

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/29/2011

Trade name: Lysis Buffer

(Contd. of page 1)

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

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

Code letter and hazard designation of product:

Xn Harmful

Hazard-determining components of labelling:

guanidinium chloride
urea

Risk phrases:

Harmful if swallowed.
Irritating to eyes and skin.
Possible risk of harm to the unborn child.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
Avoid contact with eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing and gloves.
This material and its container must be disposed of as hazardous waste.

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
Reproductive Hazard

Primary route(s) of entry:

Dermal
Oral

Target Organ(s):

May affect Nervous system (Neurotoxin)
May cause behavioral changes
May affect Bones

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.
vPvB: Not applicable.

* 4 First aid measures

Description of first aid measures**General information:**

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

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Material Safety Data Sheet

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Reviewed on 01/29/2011

Trade name: Lysis Buffer

(Contd. of page 2)

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

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 Firefighting measures

Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture None known

Advice for firefighters No special advice

* 6 Accidental release measures

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

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

Methods and material for containment and cleaning up:

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* 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.

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

USA

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/29/2011

Trade name: Lysis Buffer

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8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

57-13-6 urea

WEEL | 10 mg/m³

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.

Pregnant women should strictly avoid inhalation or skin contact.

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:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 6.4

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

Flash point: > 100°C (> 212 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/29/2011

Trade name: Lysis Buffer

(Contd. of page 4)

Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	0.0 %
Water:	25.1 %
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 Reacts with strong acids and oxidizing agents.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

50-01-1 guanidinium chloride

Oral	LD50	475 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit)
		Severe Irritation
57-13-6 urea		
Oral	LD50	8471 mg/kg (Rat)

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

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acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/29/2011

Trade name: Lysis Buffer

(Contd. of page 5)

Sensitization: No sensitizing effects known.**Additional toxicological information:**

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

Harmful

Irritant

* 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.

* 14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:**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.

* 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.

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Material Safety Data Sheet

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Reviewed on 01/29/2011

Trade name: Lysis Buffer

(Contd. of page 6)

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

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

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

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.

Product related hazard informations:

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

Hazard symbols:

Xn Harmful

Hazard-determining components of labelling:

guanidinium chloride

urea

Risk phrases:

Harmful if swallowed.

Irritating to eyes and skin.

Possible risk of harm to the unborn child.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing and gloves.

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Reviewed on 01/29/2011

Trade name: Lysis Buffer

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This material and its container must be disposed of as hazardous waste.

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

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

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** Binding Buffer**Article number:** MC5021**Relevant identified uses of the substance or mixture and uses advised against**
Application of the substance / the preparation Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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

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

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

2 Composition/information on ingredients**Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

9002-92-0	Polyethylene glycol 400 dodecyl ether	10-15%
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Additional information: For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Classification of the substance or mixture****Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

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

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

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Binding Buffer

(Contd. of page 1)

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

* 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 Firefighting measures

Extinguishing media**Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Advice for firefighters** No special advice**Protective equipment:** No special measures required.

* 6 Accidental release measures

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

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Binding Buffer

(Contd. of page 2)

7 Handling and storage

Handling:

Precautions for safe handling No special measures required.

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

Conditions for safe storage, including any incompatibilities

Storage:

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

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

Material of gloves

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

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 6.2

Change in condition

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

Flash point: Not applicable.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Binding Buffer

(Contd. of page 3)

Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	0.0 %
Water:	80.4 %
Solids content:	7.7 %
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: No sensitizing effects known.

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Binding Buffer

(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.

* **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.

* **14 Transport information**

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

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.

* **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.

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Binding Buffer

(Contd. of page 5)

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

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

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

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.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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:

(Contd. on page 7)

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Binding Buffer

(Contd. of page 6)

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

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

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** MagaZorb® Reagent**Article number:** MC5031**Relevant identified uses of the substance or mixture and uses advised against**
Application of the substance / the preparation Laboratory chemicals**Details of the supplier of the safety data sheet**
Manufacturer/Supplier:

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

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

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

2 Composition/information on ingredients**Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

9004-34-6	Cellulose	1.0-5.0%
1309-37-1	diiron trioxide	1.0-5.0%

Additional information: For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Classification of the substance or mixture****Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

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

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

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

Trade name: MagaZorb® Reagent

(Contd. of page 1)

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

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 Firefighting measures

Extinguishing media**Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Advice for firefighters** No special advice**Protective equipment:** No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

USA

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

Trade name: MagaZorb® Reagent

(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	15* 5** mg/m ³ *total dust **respirable fraction
REL	10* 5** mg/m ³ *total dust **respirable fraction
TLV	10 mg/m ³

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:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 7

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

Trade name: MagaZorb® Reagent

(Contd. of page 3)

Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100°C (212 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	0.0 %
Water:	95.0 %
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

(Contd. on page 5)

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

Trade name: MagaZorb® Reagent

(Contd. of page 4)

Primary irritant effect:*on the skin: No irritant effect.**on the eye: Irritating effect.**Sensitization: No sensitizing effects known.***Additional toxicological information:***The product is not subject to classification according to internally approved calculation methods for preparations:**When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.*

* **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**

*Contact Promega Safety Department for additional transportation information***Maritime transport IMDG:***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.*

USA

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

Trade name: MagaZorb® Reagent

(Contd. of page 5)

15 Regulatory information

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

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

1309-37-1	diiron trioxide	3
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NTP (National Toxicology Program)

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.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

Trade name: MagaZorb® Reagent

(Contd. of page 6)

16 Other information

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

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

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

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** Wash Buffer**Article number:** MC5041**Relevant identified uses of the substance or mixture and uses advised against**
Application of the substance / the preparation Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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

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

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

2 Composition/information on ingredients**Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

9002-92-0	Polyethylene glycol 400 dodecyl ether	5-10%
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Additional information: For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Classification of the substance or mixture****Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

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

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

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Wash Buffer

(Contd. of page 1)

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****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.* **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 Firefighting measures****Extinguishing media****Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Advice for firefighters** No special advice**Protective equipment:** No special measures required.* **6 Accidental release measures****Personal precautions, protective equipment and emergency procedures** Not required.**Environmental precautions:** 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)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Wash Buffer

(Contd. of page 2)

7 Handling and storage

Handling:

Precautions for safe handling No special measures required.

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

Conditions for safe storage, including any incompatibilities

Storage:

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

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

Material of gloves

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

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 6.2

Change in condition

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

Flash point: Not applicable.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Wash Buffer

(Contd. of page 3)

Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	0.0 %
Water:	86.4 %
Solids content:	7.7 %
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: No sensitizing effects known.

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Wash Buffer

(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.

* 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.

* 14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

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.

* 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.

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Wash Buffer

(Contd. of page 5)

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

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

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

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.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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:

(Contd. on page 7)

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 02/03/2011

Trade name: Wash Buffer

(Contd. of page 6)

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

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

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 02/11/2011

Reviewed on 01/31/2011

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

Product identifier

Trade name: Elution Buffer

Article number: MC5051

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

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

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

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

Emergency telephone number:

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

2 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components: Void

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

* **3 Hazards identification**

Classification of the substance or mixture

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

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

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

Label elements

Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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Trade name: *Elution Buffer*

(Contd. of page 1)

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****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.* **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 Firefighting measures****Extinguishing media****Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Advice for firefighters** No special advice**Protective equipment:** No special measures required.* **6 Accidental release measures****Personal precautions, protective equipment and emergency procedures** Not required.**Environmental precautions:** No special measures required.**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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Material Safety Data Sheet

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Trade name: Elution Buffer

(Contd. of page 2)

7 Handling and storage

Handling:

Precautions for safe handling No special measures required.

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

Conditions for safe storage, including any incompatibilities

Storage:

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

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

Material of gloves

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

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 8

Change in condition

Melting point/Melting range:	0°C (32 °F)
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

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Trade name: Elution Buffer

(Contd. of page 3)

Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density at 20°C (68 °F):	0.99993 g/cm ³ (8.344 lbs/gal)
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	0.0 %
Water:	99.9 %
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: No sensitizing effects known.

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Trade name: Elution Buffer

(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.

* 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.

* 14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

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.

* 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.

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Material Safety Data Sheet

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Trade name: **Elution Buffer**

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TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

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

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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.

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