Kit Components

Product code	Description
Z3101	**SV Total RNA Isolation System Trial Size** **10 preps**

Components:

P119	Nuclease-Free Water
Z305	RNA Lysis Buffer (RLA)
Z306	RNA Dilution Buffer (RDA)
Z358A	DNAse I (lyophilized)
Z309	RNA Wash Solution (RWA)
Z312	DNase Stop Solution (DSA)
Z523	ß-Mercaptoethanol (48.7%)
Z311	Spin Column Assemblies & Elution Tubes - Article,
Z317	Yellow Core Buffer
Z318	0.09M MnCl2

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

*
1: Identification

1.1 Product identifier
Trade name: Nuclease-Free Water

Article number: *P119*
CAS Number:
7732-18-5
EC number:
231-791-2
Application of the substance / the mixture *Laboratory chemicals*

1.3 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*
1.4 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

2.1 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.

2.2 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*

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: Nuclease-Free Water

(Contd. of page 1)

2.3 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

3.1 Chemical characterization: Substances
CAS No. Description
7732-18-5 water
Identification number(s)
EC number: *231-791-2*

*
4: First-aid measures

4.1 Description of first aid measures
General information: *No special measures required.*
After inhalation: *If the patient feels unwell or is concerned, obtain medical advice.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
4.2 Most important symptoms and effects, both acute and delayed *None*
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

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

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Not required.*
6.2 Environmental precautions: *Dilute with plenty of water.*
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Nuclease-Free Water

(Contd. of page 2)

*
7: Handling and storage

7.1 Precautions for safe handling No special measures required.
Information about protection against explosions and fires: The product is not flammable.

7.2 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.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Eye protection: Not required.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Fluid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.
Change in condition	
Melting point/Melting range:	0 °C (32 °F)
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Not determined.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Nuclease-Free Water

(Contd. of page 3)

Upper:	Not determined.
Vapor pressure:	Not determined.
Density at 20 °C (68 °F):	1 g/cm³ (8.345 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic at 20 °C (68 °F):	.0952 mPas
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	100.0 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)
Substance is not listed.

NTP (National Toxicology Program)
Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)
Substance is not listed.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Nuclease-Free Water

(Contd. of page 4)

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical effects:
Remark: Not available
Additional ecological information:
General notes: Generally not hazardous for water.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

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

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Nuclease-Free Water

(Contd. of page 5)

UN "Model Regulation": Void

*
15: Regulatory information

15.1 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.

Cancerogenity categories

EPA (Environmental Protection Agency)
Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)
Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

National regulations:

Water hazard class: Generally not hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

*
16: Other information

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

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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: Nuclease-Free Water

(Contd. of page 6)

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/01/2016*

*
1: Identification

1.1 Product identifier
Trade name: ***RNA Lysis Buffer (RLA)***

Article number: *Z305*
Application of the substance / the mixture *Laboratory chemicals*

1.3 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*
1.4 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

2.1 Classification of the substance or mixture
Classification according to the Hazard Communication Standard (HCS)


Corrosion

Skin Corr. 1B *H314 Causes severe skin burns and eye damage.*

Acute Tox. 4 *H302 Harmful if swallowed.*
Acute Tox. 4 *H312 Harmful in contact with skin.*
Acute Tox. 4 *H332 Harmful if inhaled.*

Aquatic Chronic 3 *H412 Harmful to aquatic life with long lasting effects.*

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labeled according to the CLP regulation.
Hazard pictograms *GHS05, GHS07*
Signal word *Danger*

Hazard-determining components of labeling:
guanidinium thiocyanate

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 1)

Hazard statements
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Additional information:
EUH032 Contact with acids liberates very toxic gas.
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
Corrosive
Environmental Hazard
Primary route(s) of entry:
Dermal
Inhalation
Oral
Target Organ(s):
May affect Nervous system (Neurotoxin)
May cause Kidney damage (Nephrotoxin)
Risk of damage to eyes
Affects Gastrointestinal System
2.3 Other hazards Product has been observed to have sensitizing effects.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

*
3: Composition/information on ingredients

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

Dangerous components:		
593-84-0	guanidinium thiocyanate Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H332; Aquatic Chronic 3, H412	25-50%

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 2)

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

*
4: First-aid measures

4.1 Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Seek medical treatment.
After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
Seek medical treatment 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: Call a doctor immediately.
After swallowing:
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Seek immediate medical advice.
4.2 Most important symptoms and effects, both acute and delayed None
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
5.2 Special hazards arising from the substance or mixture None known
5.3 Advice for firefighters
No special advice
In the case of fire, wear respiratory protective equipment and chemical protective suit.
Protective equipment: Mouth respiratory protective device.

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Remove persons from danger area.
Wear protective equipment. Keep unprotected persons away.
Keep people at a distance and stay upwind.
Wear protective clothing.
6.2 Environmental precautions:
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 3)

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
Keep away from water.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7: Handling and storage

7.1 Precautions for safe handling
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Information about protection against explosions and fires: The product is not flammable.

7.2 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: Do not store together with acids.
Further information about storage conditions: Keep receptacle tightly sealed.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 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.
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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 4)

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection:
Tightly sealed goggles
Use equipment for eye protection tested and approved under government NIOSH standards.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Fluid
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined.
pH-value at 20 °C (68 °F):	7.5
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.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	52.0 %
Solids content:	48.0 %
9.2 Other information	No further relevant information available.

US

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 5)

*
10: Stability and reactivity

10.1 Reactivity No further relevant information available.
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions No dangerous reactions known.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials:
Exposure to strong acid will result in the generation of toxic gases
Exposure to bleach may result in the generation of toxic gas
10.6 Hazardous decomposition products: No dangerous decomposition products known.

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
Harmful if swallowed, in contact with skin or if inhaled.

LD/LC50 values that are relevant for classification:		
593-84-0 guanidinium thiocyanate		
Oral	LD50	475 mg/kg (Rat) By analogy to guanidine hydrochloride
Dermal	LD50	>2000 mg/kg (Rabbit) By analogy to Guanidine hydrochloride.

Primary irritant effect:
on the skin:
Causes severe skin burns and eye damage.
on the eye:
Causes severe skin burns and eye damage.
Sensitization: Sensitization possible through inhalation.
Additional toxicological information:

Carcinogenic categories

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

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

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

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Harmful to aquatic life with long lasting effects.
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical effects:
Remark: Harmful to fish

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 6)

Additional ecological information:
General notes:
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
12.5 Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
12.6 Other adverse effects *No further relevant information available.*

*
13: Disposal considerations

13.1 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

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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 7)

*
15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16: Other information

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

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

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/01/2016*

Trade name: RNA Lysis Buffer (RLA)

(Contd. of page 8)

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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3
**** Data compared to the previous version altered.***

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

*
1: Identification

1.1 Product identifier
Trade name: RNA Dilution Buffer (RDA)

Article number: *Z306*
Application of the substance / the mixture *Laboratory chemicals*

1.3 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*
1.4 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

2.1 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.

2.2 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*
2.3 Other hazards
This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.
Results of PBT and vPvB assessment
PBT: *Not applicable.*

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Dilution Buffer (RDA)

(Contd. of page 1)

vPvB: *Not applicable.*

*
3: Composition/information on ingredients

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

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

*
4: First-aid measures

4.1 Description of first aid measures
General information: *No special measures required.*
After inhalation: *If the patient feels unwell or is concerned, obtain medical advice.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
4.2 Most important symptoms and effects, both acute and delayed *None*
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

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

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Not required.*
6.2 Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Dilution Buffer (RDA)

(Contd. of page 2)

*
7: Handling and storage

7.1 Precautions for safe handling No special measures required.
Information about protection against explosions and fires: The product is not flammable.

7.2 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.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Fluid
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined.
pH-value at 20 °C (68 °F):	7
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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Dilution Buffer (RDA)

(Contd. of page 3)

Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	74.6 %
Solids content:	26.7 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)	
Brilliant blue FCF	3

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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Dilution Buffer (RDA)

(Contd. of page 4)

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical 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.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

14.1 UN-Number	Not hazardous for transportation
DOT, ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name	None
DOT, ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es)	None
DOT, ADR, ADN, IMDG, IATA	
Class	Void
14.4 Packing group	None
DOT, ADR, IMDG, IATA	Void
14.5 Environmental hazards:	
Marine pollutant:	No

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Dilution Buffer (RDA)

(Contd. of page 5)

14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Void

*

15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16: Other information

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

Department issuing SDS:
Promega Corporation
Environmental Health and Safety Department
2800 Woods Hollow Road
Madison, WI

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: RNA Dilution Buffer (RDA)

(Contd. of page 6)

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: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

*
1: Identification

1.1 Product identifier
Trade name: DNAse I (lyophilized)

Article number: *Z358A*
Application of the substance / the mixture *Laboratory chemicals*

1.3 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*
1.4 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

2.1 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.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*
Additional information:
Safety data sheet available on request.
Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0
HMIS-ratings (scale 0 - 4)
Health = 1
Fire = 0
Reactivity = 0
OSHA Hazard Overview (Criteria according to 29CFR1910.1200): *Not applicable*
Target Organ(s): *Not applicable or unknown*
2.3 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 02/03/2016 Reviewed on 02/02/2016

Trade name: DNAse I (lyophilized)

(Contd. of page 1)

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

*
3: Composition/information on ingredients

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

Dangerous components:			
10043-52-4	*Calcium chloride*	*Eye Irrit. 2, H319*	*<2.00%*

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

*
4: First-aid measures

4.1 Description of first aid measures
General information: *No special measures required.*
After inhalation: *If the patient feels unwell or is concerned, obtain medical advice.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
4.2 Most important symptoms and effects, both acute and delayed *None*
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

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

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Not required.*
6.2 Environmental precautions: *Do not allow to enter sewers/ surface or ground water.*
6.3 Methods and material for containment and cleaning up: *Pick up mechanically.*
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7: Handling and storage

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

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: DNAse I (lyophilized)

(Contd. of page 2)

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

7.2 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.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Solid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not determined.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: DNAse I (lyophilized)

(Contd. of page 3)

Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Soluble.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Organic solvents:	0.0 %
Solids content:	100.0 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

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

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

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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: DNAse I (lyophilized)

(Contd. of page 4)

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical 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.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

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

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: DNAse I (lyophilized)

(Contd. of page 5)

UN "Model Regulation": Void

*
15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

*
16: Other information

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

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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: DNAse I (lyophilized)

(Contd. of page 6)

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
**** Data compared to the previous version altered.***

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

*
1: Identification

1.1 Product identifier
Trade name: RNA Wash Solution (RWA)

Article number: Z309
Application of the substance / the mixture Laboratory chemicals

1.3 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
1.4 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

2.1 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.

2.2 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
2.3 Other hazards
This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.
Results of PBT and vPvB assessment
PBT: Not applicable.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Wash Solution (RWA)

(Contd. of page 1)

vPvB: Not applicable.

*
3: Composition/information on ingredients

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

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

*
4: First-aid measures

4.1 Description of first aid measures
General information: No special measures required.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.
4.2 Most important symptoms and effects, both acute and delayed None
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

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

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Not required.
6.2 Environmental precautions: Dilute with plenty of water.
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7: Handling and storage

7.1 Precautions for safe handling No special measures required.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: RNA Wash Solution (RWA)

(Contd. of page 2)

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

7.2 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.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined.
pH-value at 20 °C (68 °F):	7.5
Change in condition	
Melting point/Melting range:	0 °C (32 °F)
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Wash Solution (RWA)

(Contd. of page 3)

Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	97.1 %
Solids content:	10.0 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

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

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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Wash Solution (RWA)

(Contd. of page 4)

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical effects:
Remark: Not available
Additional ecological information:
General notes: Generally not hazardous for water.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

14.1 UN-Number	Not hazardous for transportation
DOT, ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name	None
DOT, ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es)	None
DOT, ADR, ADN, IMDG, IATA	
Class	Void
14.4 Packing group	None
DOT, ADR, IMDG, IATA	Void
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Not applicable.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: RNA Wash Solution (RWA)

(Contd. of page 5)

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

*
15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Generally not hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

*
16: Other information

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

Department issuing SDS:

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: RNA Wash Solution (RWA)

(Contd. of page 6)

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: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/01/2016*

*
1: Identification

1.1 Product identifier
Trade name: DNase Stop Solution (DSA)

Article number: *Z312*
Application of the substance / the mixture *Laboratory chemicals*

1.3 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*
1.4 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

2.1 Classification of the substance or mixture
Classification according to the Hazard Communication Standard (HCS)


Corrosion

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

Acute Tox. 4 *H302 Harmful if swallowed.*
Acute Tox. 4 *H332 Harmful if inhaled.*

Aquatic Chronic 3 *H412 Harmful to aquatic life with long lasting effects.*

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labeled according to the CLP regulation.
Hazard pictograms *GHS05, GHS07*
Signal word *Danger*

Hazard-determining components of labeling:
guanidinium thiocyanate

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/01/2016*

Trade name: DNase Stop Solution (DSA)

(Contd. of page 1)

Hazard statements
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Additional information:
EUH032 Contact with acids liberates very toxic gas.
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
Corrosive
Environmental Hazard
Primary route(s) of entry:
Dermal
Inhalation
Oral
Target Organ(s):
May affect Nervous system (Neurotoxin)
May cause Kidney damage (Nephrotoxin)
Risk of damage to eyes
Affects Gastrointestinal System
2.3 Other hazards *Product has been observed to have sensitizing effects.*
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

*
3: Composition/information on ingredients

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

Dangerous components:		
593-84-0	*guanidinium thiocyanate* *Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H332; Aquatic Chronic 3, H412*	*50-75%*

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: DNase Stop Solution (DSA)

(Contd. of page 2)

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

*
4: First-aid measures

4.1 Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Seek medical treatment.
After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
Seek medical treatment 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: Call a doctor immediately.
After swallowing:
Immediately call a doctor.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Seek immediate medical advice.
4.2 Most important symptoms and effects, both acute and delayed None
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
5.2 Special hazards arising from the substance or mixture None known
5.3 Advice for firefighters
No special advice
In the case of fire, wear respiratory protective equipment and chemical protective suit.
Protective equipment: Mouth respiratory protective device.

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Remove persons from danger area.
Wear protective equipment. Keep unprotected persons away.
Keep people at a distance and stay upwind.
Wear protective clothing.
6.2 Environmental precautions:
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: DNase Stop Solution (DSA)

(Contd. of page 3)

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
Keep away from water.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7: Handling and storage

7.1 Precautions for safe handling
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Information about protection against explosions and fires: The product is not flammable.

7.2 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: Do not store together with acids.
Further information about storage conditions: Keep receptacle tightly sealed.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 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.
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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: DNase Stop Solution (DSA)

(Contd. of page 4)

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection:
Tightly sealed goggles
Use equipment for eye protection tested and approved under government NIOSH standards.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	*Fluid*
Color:	*Colorless*
Odor:	*Not determined*
Odor threshold:	*Not determined.*
pH-value at 20 °C (68 °F):	*7.5*
Change in condition	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*Undetermined.*
Flash point:	*Not applicable.*
Flammability (solid, gaseous):	*Not applicable.*
Ignition temperature:	
Decomposition temperature:	*Not determined.*
Auto igniting:	*Product is not selfigniting.*
Danger of explosion:	*Product does not present an explosion hazard.*
Explosion limits:	
Lower:	*Not determined.*
Upper:	*Not determined.*
Vapor pressure:	*Not determined.*
Density at 20 °C (68 °F):	*1.123 g/cm³ (9.371 lbs/gal)*
Relative density	*Not determined.*
Vapor density	*Not determined.*
Evaporation rate	*Not determined.*
Solubility in / Miscibility with	
Water:	*Fully miscible.*
Partition coefficient (n-octanol/water):	*Not determined.*
Viscosity:	
Dynamic:	*Not determined.*
Kinematic:	*Not determined.*
Organic solvents:	*0.0 %*
Water:	*40.8 %*
Solids content:	*59.2 %*
9.2 Other information	*No further relevant information available.*

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: DNase Stop Solution (DSA)

(Contd. of page 5)

*
10: Stability and reactivity

10.1 Reactivity No further relevant information available.
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions
Reacts with strong oxidizing agents.
Reacts with acids.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials:
Exposure to strong acid will result in the generation of toxic gases
Exposure to bleach may result in the generation of toxic gas
10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Sulfur oxides (SOx)

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
Harmful if swallowed or if inhaled.

LD/LC50 values that are relevant for classification:		
593-84-0 guanidinium thiocyanate		
Oral	LD50	475 mg/kg (Rat) By analogy to guanidine hydrochloride
Dermal	LD50	>2000 mg/kg (Rabbit) By analogy to Guanidine hydrochloride.

Primary irritant effect:
on the skin:
Causes severe skin burns and eye damage.
on the eye:
Causes serious eye damage.
Sensitization: Sensitization possible through inhalation.
Additional toxicological information:

Carcinogenic categories

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

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

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

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Harmful to aquatic life with long lasting effects.
12.2 Persistence and degradability Not available

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Trade name: DNase Stop Solution (DSA)

(Contd. of page 6)

12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical effects:
Remark: Harmful to fish
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.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Harmful to aquatic organisms
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: DNase Stop Solution (DSA)

(Contd. of page 7)

*
15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

*
16: Other information

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

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

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/01/2016*

Trade name: DNase Stop Solution (DSA)

(Contd. of page 8)

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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/01/2016*

*
1: Identification

1.1 Product identifier
Trade name: ß-Mercaptoethanol (48.7%)

Article number: Z523
Application of the substance / the mixture Laboratory chemicals

1.3 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
1.4 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

2.1 Classification of the substance or mixture
Classification according to the Hazard Communication Standard (HCS)


Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.
Acute Tox. 3 H331 Toxic if inhaled.


Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.


Corrosion

Eye Dam. 1 H318 Causes serious eye damage.


Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 1)

Acute Tox. 4	H302 Harmful if swallowed.
Skin Irrit. 2	H315 Causes skin irritation.
Skin Sens. 1	H317 May cause an allergic skin reaction.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labeled according to the CLP regulation.
Hazard pictograms GHS05, GHS06, GHS08, GHS09
Signal word Danger

Hazard-determining components of labeling:
2-mercaptoethanol
Hazard statements

H302	Harmful if swallowed.
H311+H331	Toxic in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
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/doctor.
P361	Take off immediately all contaminated clothing.
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 = 3
Fire = 2
Reactivity = 1
HMIS-ratings (scale 0 - 4)
Health = *3
Fire = 2
Reactivity = 1
OSHA Hazard Overview (Criteria according to 29CFR1910.1200):
Highly Toxic
Corrosive
Irritant
Sensitizer
Combustible
Environmental Toxin
Environmental Hazard
Primary route(s) of entry:
Dermal
Inhalation
Oral

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 2)

Target Organ(s):
Affects Pulmonary system (Lungs)
Affects Gastrointestinal System
May cause behavioral changes
2.3 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

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

Dangerous components:		
60-24-2	*2-mercaptoethanol* *Acute Tox. 3, H301; Acute Tox. 2, H310; Acute Tox. 3, H331; STOT RE 2, H373; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317*	*25-50%*

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

*
4: First-aid measures

4.1 Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Take affected persons out into the fresh air.
Do not leave affected persons unattended.
Seek medical treatment.
Provide oxygen treatment if affected person has difficulty breathing.
Medical supervision for at least 48 hours.
After inhalation:
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
Call a doctor immediately.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Call a doctor immediately.
If skin irritation continues, consult a doctor.
After eye contact: *Call a doctor immediately.*
After swallowing:
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
4.2 Most important symptoms and effects, both acute and delayed *Allergic reactions*

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 3)

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing agents: *Use fire fighting measures that suit the environment.*
5.2 Special hazards arising from the substance or mixture *None known*
5.3 Advice for firefighters *In the case of fire, wear respiratory protective equipment and chemical protective suit.*
Protective equipment: *Mouth respiratory protective device.*

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Remove persons from danger area.
Wear protective equipment. Keep unprotected persons away.
Keep people at a distance and stay upwind.
Wear protective clothing.
6.2 Environmental precautions:
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7: Handling and storage

7.1 Precautions for safe handling
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Work only in fume cabinet.
Information about protection against explosions and fires: *Keep respiratory protective device available.*

7.2 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.*
7.3 Specific end use(s) *No further relevant information available.*

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 4)

*
8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:	
60-24-2 2-mercaptoethanol	
WEEL	Long-term value: 0.2 ppm Skin

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

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Ensure that washing facilities are available at the work place.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection:
Tightly sealed goggles
Use equipment for eye protection tested and approved under government NIOSH standards.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Like rotten eggs (mercaptans)
Odor threshold:	Not determined.

Change in condition

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

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 5)

Flash point:	> 55 °C (> 131 °F)
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 at 20 °C (68 °F):	3.6 hPa (3 mm Hg)
Density at 20 °C (68 °F):	1.056 g/cm³ (8.812 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	48.7 %
Water:	51.3 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

10.1 Reactivity No further relevant information available.
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions No dangerous reactions known.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials: Oxidizing agents
10.6 Hazardous decomposition products: No dangerous decomposition products known.

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
Harmful if swallowed.
Toxic in contact with skin or if inhaled.

LD/LC50 values that are relevant for classification:		
60-24-2 2-mercaptoethanol		
Oral	LD50	244 mg/kg (Rat)
Dermal	LD50	150 mg/kg (Rabbit)
Irritation of eyes	acute	2 mg (Rabbit) Severe

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 6)

Primary irritant effect:
on the skin:
Causes skin irritation.
on the eye:
Causes serious eye damage.
Sensitization:
May cause an allergic skin reaction.
Additional toxicological information:

Carcinogenic categories

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

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

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

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: *Not harmful to the aquatic environment*
12.2 Persistence and degradability *Not readily biodegradable*
12.3 Bioaccumulative potential *Not known*
12.4 Mobility in soil *No further relevant information available.*
Ecotoxical effects:
Remark: *Very toxic for fish*
Additional ecological information:
General notes:
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
12.5 Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
12.6 Other adverse effects *No further relevant information available.*

*
13: Disposal considerations

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

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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 7)

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

*

14: Transport information

14.1 UN-Number
DOT, ADR, IMDG, IATA UN2810

14.2 UN proper shipping name
DOT, IATA Toxic, liquids, organic, n.o.s. (Thioglycol)
ADR 2810 Toxic, liquids, organic, n.o.s. (Thioglycol), ENVIRONMENTALLY HAZARDOUS
IMDG TOXIC LIQUID, ORGANIC, N.O.S. (THIOGLYCOL)

14.3 Transport hazard class(es)

DOT

Class 6.1 Toxic substances
Label 6.1

ADR

Class 6.1 Toxic substances
Label 6.1

IMDG, IATA

Class 6.1 Toxic substances
Label 6.1

14.4 Packing group
DOT, ADR, IMDG, IATA III

14.5 Environmental hazards:
Marine pollutant: No
Special marking (ADR): Symbol (fish and tree)

14.6 Special precautions for user Warning: Toxic substances
Stowage Category A
Stowage Code SW2 Clear of living quarters.

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

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/01/2016

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 8)

Transport/Additional information:

ADR
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

IMDG
Limited quantities (LQ) 5L
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation": UN 2810 TOXIC, LIQUIDS, ORGANIC, N.O.S. (THIOGLYCOL), 6.1, III, ENVIRONMENTALLY HAZARDOUS

*
15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Water hazard class 3 (Self-assessment): extremely hazardous for water.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Trade name: ß-Mercaptoethanol (48.7%)

(Contd. of page 9)

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

16: Other information

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

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

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 2: Acute toxicity, Hazard Category 2
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

*
1: Identification

1.1 Product identifier
Trade name: Spin Column Assemblies & Elution Tubes - Article,

Article number: Z311
Application of the substance / the mixture Laboratory chemicals

1.3 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
1.4 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

2.1 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.

2.2 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
2.3 Other hazards
This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.
Results of PBT and vPvB assessment
PBT: Not applicable.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Spin Column Assemblies & Elution Tubes - Article,

(Contd. of page 1)

vPvB: *Not applicable.*

3: Composition/information on ingredients

3.1 Chemical characterization: Substances
CAS No. Description
Article

*

4: First-aid measures

4.1 Description of first aid measures
General information: *No special measures required.*
After inhalation: *If the patient feels unwell or is concerned, obtain medical advice.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
4.2 Most important symptoms and effects, both acute and delayed *None*
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*

5: Fire-fighting measures

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

*

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Not required.*
6.2 Environmental precautions: *Do not allow to enter sewers/ surface or ground water.*
6.3 Methods and material for containment and cleaning up: *Pick up mechanically.*
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*

7: Handling and storage

7.1 Precautions for safe handling *No special measures required.*
Information about protection against explosions and fires: *The product is not flammable.*

7.2 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.*

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Spin Column Assemblies & Elution Tubes - Article,

(Contd. of page 2)

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

*
8: Exposure controls/personal protection

8.1 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.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Eye protection: Not required.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Solid
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Product is not flammable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Not determined.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Spin Column Assemblies & Elution Tubes - Article,

(Contd. of page 3)

Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: Not applicable.
Kinematic: Not applicable.

Organic solvents: 0.0 %
9.2 Other information No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)
Substance is not listed.

NTP (National Toxicology Program)
Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)
Substance is not listed.

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical 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.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Spin Column Assemblies & Elution Tubes - Article,

(Contd. of page 4)

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

*
13: Disposal considerations

13.1 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

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

*
15: Regulatory information

15.1 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 not listed.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Spin Column Assemblies & Elution Tubes - Article,

(Contd. of page 5)

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.

Cancerogenity categories

EPA (Environmental Protection Agency)
Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)
Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16: Other information

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

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

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: Spin Column Assemblies & Elution Tubes - Article,

(Contd. of page 6)

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

*
1: Identification

1.1 Product identifier
Trade name: Yellow Core Buffer

Article number: *Z317*
Application of the substance / the mixture *Laboratory chemicals*

1.3 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*
1.4 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

2.1 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.

2.2 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*
2.3 Other hazards
This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.
Results of PBT and vPvB assessment
PBT: *Not applicable.*

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Yellow Core Buffer

(Contd. of page 1)

vPvB: *Not applicable.*

3: Composition/information on ingredients

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

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

*

4: First-aid measures

4.1 Description of first aid measures
General information: *No special measures required.*
After inhalation: *If the patient feels unwell or is concerned, obtain medical advice.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
4.2 Most important symptoms and effects, both acute and delayed *None*
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*

5: Fire-fighting measures

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

*

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Not required.*
6.2 Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*

7: Handling and storage

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

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Yellow Core Buffer

(Contd. of page 2)

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

7.2 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.*
7.3 Specific end use(s) *No further relevant information available.*

*
8: Exposure controls/personal protection

8.1 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.*

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: *Not required.*
Protection of hands: *Not required.*
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: *Not required.*

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	*Liquid*
Color:	*Colorless*
Odor:	*Not determined*
Odor threshold:	*Not determined.*
pH-value at 20 °C (68 °F):	*7.4*
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.*

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Yellow Core Buffer

(Contd. of page 3)

Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	93.1 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

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

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

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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Yellow Core Buffer

(Contd. of page 4)

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical 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.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

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

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: Yellow Core Buffer

(Contd. of page 5)

UN "Model Regulation": Void

*
15: Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

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

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

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

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

*
16: Other information

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

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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: Yellow Core Buffer

(Contd. of page 6)

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

*
1: Identification

1.1 Product identifier
Trade name: 0.09M MnCl2

Article number: Z318
Application of the substance / the mixture Laboratory chemicals

1.3 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
1.4 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

2.1 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.

2.2 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
2.3 Other hazards
This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.
Results of PBT and vPvB assessment
PBT: Not applicable.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: 0.09M MnCl2

(Contd. of page 1)

vPvB: *Not applicable.*

*
3: Composition/information on ingredients

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

Dangerous components:			
7773-01-5	*Manganese (II) Chloride*	*Acute Tox. 3, H301*	*<2.00%*

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

*
4: First-aid measures

4.1 Description of first aid measures
General information: *No special measures required.*
After inhalation: *If the patient feels unwell or is concerned, obtain medical advice.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
4.2 Most important symptoms and effects, both acute and delayed *None*
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5: Fire-fighting measures

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

*
6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Not required.*
6.2 Environmental precautions: *Dilute with plenty of water.*
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7: Handling and storage

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

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: 0.09M MnCl2

(Contd. of page 2)

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

7.2 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.
7.3 Specific end use(s) No further relevant information available.

*
8: Exposure controls/personal protection

8.1 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.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

*
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Fluid
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined.
pH-value at 20 °C (68 °F):	5
Change in condition	
Melting point/Melting range:	0 °C (32 °F)
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: 0.09M MnCl2

(Contd. of page 3)

Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	98.9 %
Solids content:	1.0 %
9.2 Other information	No further relevant information available.

*
10: Stability and reactivity

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

*
11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

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

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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: 0.09M MnCl2

(Contd. of page 4)

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

*
12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not harmful to the aquatic environment
12.2 Persistence and degradability Not available
12.3 Bioaccumulative potential Not known
12.4 Mobility in soil No further relevant information available.
Ecotoxical effects:
Remark: Not available
Additional ecological information:
General notes: Generally not hazardous for water.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

*
13: Disposal considerations

13.1 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

14.1 UN-Number	Not hazardous for transportation
DOT, ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name	None
DOT, ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es)	None
DOT, ADR, ADN, IMDG, IATA	
Class	Void
14.4 Packing group	None
DOT, ADR, IMDG, IATA	Void
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Not applicable.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 Reviewed on 02/02/2016

Trade name: 0.09M MnCl2

(Contd. of page 5)

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

*
15: Regulatory information

15.1 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):

7773-01-5	Manganese (II) Chloride

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

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

EPA (Environmental Protection Agency)

7773-01-5	Manganese (II) Chloride	D

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

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

National regulations:

Water hazard class: Generally not hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

*
16: Other information

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

Department issuing SDS:

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/03/2016 *Reviewed on 02/02/2016*

Trade name: 0.09M MnCl2

(Contd. of page 6)

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: Internation Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 3: Acute toxicity, Hazard Category 3
**** Data compared to the previous version altered.***