

05/23/2015

Kit Components

Product code	Description
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B1002	StemElite™ Gene Expression System Plus
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Components:

B1001	StemElite™ Gene Expression System
A5000	GoScript™ Reverse Transcription System, 50 rx

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

1: Identification**1.1 Product identifier****Trade name:** Plexor® Hot Start 2X Master Mix**Article number:** B100**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals**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 = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 1

Reactivity = 0

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

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Trade name: Plexor® Hot Start 2X Master Mix

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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:

57-50-1	sucrose, pure	15-20%
56-81-5	glycerol	1.0-5.0%

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.

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Trade name: Plexor® Hot Start 2X Master Mix

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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: No special measures required.

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:

57-50-1 sucrose, pure

PEL Long-term value: 15* 5** mg/m³
*total dust **respirable fraction

REL Long-term value: 10* 5** mg/m³
*total dust **respirable fraction

TLV Long-term value: 10 mg/m³

56-81-5 glycerol

PEL Long-term value: 15* 5** mg/m³
mist; *total dust **respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

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

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

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Trade name: Plexor® Hot Start 2X Master Mix

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Odor:	Not determined
Odour threshold:	Not determined.
pH-value at 20 °C (68 °F):	9.1
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	> 100 °C (> 212 °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:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	2.5 %
Water:	75.8 %
Solids content:	0.1 %
9.2 Other information	No further relevant information available.

10: Stability and reactivity

10.1 Reactivity

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:

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

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Trade name: Plexor® Hot Start 2X Master Mix

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Primary irritant effect:*on the skin: No irritant effect.**on the eye: Irritating effect.**Sensitization: No sensitizing effects known.***Additional toxicological information:***The product is not subject to classification according to internally approved calculation methods for preparations:**When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.***Carcinogenic categories****IARC (International Agency for Research on Cancer)***None of the ingredients are listed.***NTP (National Toxicology Program)***None of the ingredients are listed.***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.***Ecotoxicological effects:****Remark:** *Not available***Additional ecological information:****General notes:***Water hazard class 1 (Self-assessment): slightly hazardous for water**Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.***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.*

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Trade name: Plexor® Hot Start 2X Master Mix

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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":	-

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):

57-50-1 sucrose, pure

56-81-5 glycerol

7447-40-7 potassium chloride

77-86-1 2-Amino-2-(hydroxymethyl)-1,3-propanediol

1185-53-1 2-Amino-2-(hydroxymethyl)-1,3-propanediolhydrochloride

7732-18-5 water

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

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.

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Trade name: Plexor® Hot Start 2X Master Mix

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Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

57-50-1 | sucrose, pure

A4

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

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: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

1: Identification**1.1 Product identifier****Trade name:** Nuclease-Free Water**Article number:** P119**CAS Number:**

7732-18-5

EC number:

231-791-2

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

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals**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

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Trade name: Nuclease-Free Water

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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.

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Reviewed on 05/22/2015

Trade name: Nuclease-Free Water

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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
Odour 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.

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Trade name: Nuclease-Free Water

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Upper:	Not determined.
Vapor pressure:	Not determined.
Density at 20 °C (68 °F):	1 g/cm ³ (8.345 lbs/gal)
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic 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

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:

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

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

The substance is not subject to classification.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

Substance is not listed.

NTP (National Toxicology Program)

Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

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Reviewed on 05/22/2015

Trade name: *Nuclease-Free Water*

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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.

Ecotoxicological 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	<i>Not hazardous for transportation</i>
<i>DOT, ADR, ADN, IMDG, IATA</i>	<i>Void</i>

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

14.3 Transport hazard class(es)	<i>None</i>
<i>DOT, ADR, ADN, IMDG, IATA</i>	
Class	<i>Void</i>

14.4 Packing group	<i>None</i>
<i>DOT, ADR, IMDG, IATA</i>	<i>Void</i>

14.5 Environmental hazards:	
Marine pollutant:	<i>No</i>

14.6 Special precautions for user	<i>Not applicable.</i>
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14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	<i>Not applicable.</i>
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Safety Data Sheet

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Reviewed on 05/22/2015

Trade name: Nuclease-Free Water

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UN "Model Regulation": -

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.

Carcinogenicity categories

EPA (Environmental Protection Agency)

Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

MAK (German Maximum Workplace Concentration)

Substance is not listed.

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

Substance is not listed.

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:

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Reviewed on 05/22/2015

Trade name: Nuclease-Free Water

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

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)

DOT: US Department of Transportation

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

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

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

1: Identification**1.1 Product identifier****Trade name:** Oligo (dT) 15 Primer, 500µg/ml**Article number:** C110**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals**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.

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acc. to OSHA HCS

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Trade name: Oligo (dT) 15 Primer, 500µg/ml

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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: 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.

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 05/23/2015

Reviewed on 05/22/2015

Trade name: Oligo (dT) 15 Primer, 500µg/ml

(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
Odour threshold:	Not determined.

pH-value at 20 °C (68 °F): 7

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 05/23/2015

Reviewed on 05/22/2015

Trade name: Oligo (dT) 15 Primer, 500µg/ml

(Contd. of page 3)

Explosion limits:**Lower:** Not determined.**Upper:** Not determined.**Vapor pressure:** Not determined.**Density:** Not determined.**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Fully miscible.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Organic solvents:** 0.0 %**Water:** 99.9 %**Solids content:** 10.0 %**9.2 Other information** No further relevant information available.

10: Stability and reactivity

10.1 Reactivity**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:****LD/LC50 values that are relevant for classification:** No data available**Primary irritant effect:****on the skin:** No irritant effect.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

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

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

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

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: Oligo (dT) 15 Primer, 500µg/ml

(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.

Ecotoxicological 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 05/23/2015

Reviewed on 05/22/2015

Trade name: Oligo (dT) 15 Primer, 500µg/ml

(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": -

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.

Carcinogen categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: Oligo (dT) 15 Primer, 500µg/ml

(Contd. of page 6)

*Madison, WI**Ph:(608)274-4330***Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organization**ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**GHS: Globally Harmonized System of Classification and Labeling of Chemicals**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**** Data compared to the previous version altered.**

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

1: Identification**1.1 Product identifier****Trade name:** *dNTP Mix, 10mM***Article number:** *C114***1.2 Relevant identified uses of the substance or mixture and uses advised against***No further relevant information available.***Application of the substance / the mixture** *Laboratory chemicals***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.*

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: dNTP Mix, 10mM

(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: 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.

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 05/23/2015

Reviewed on 05/22/2015

Trade name: dNTP Mix, 10mM

(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
Odour threshold:	Not determined.

pH-value at 20 °C (68 °F): 7

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 05/23/2015

Reviewed on 05/22/2015

Trade name: dNTP Mix, 10mM

(Contd. of page 3)

Explosion limits:**Lower:** Not determined.**Upper:** Not determined.**Vapor pressure:** Not determined.**Density:** Not determined.**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Fully miscible.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Organic solvents:** 0.0 %**Water:** 97.9 %**Solids content:** 10.0 %**9.2 Other information** No further relevant information available.* **10: Stability and reactivity****10.1 Reactivity****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:****LD/LC50 values that are relevant for classification:** No data available**Primary irritant effect:****on the skin:** No irritant effect.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

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

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

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

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: dNTP Mix, 10mM

(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.

Ecotoxicological 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 05/23/2015

Reviewed on 05/22/2015

Trade name: dNTP Mix, 10mM

(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": -

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):

7732-18-5 | water

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

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

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: dNTP Mix, 10mM

(Contd. of page 6)

*Madison, WI**Ph:(608)274-4330***Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organization**ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**GHS: Globally Harmonized System of Classification and Labeling of Chemicals**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**** Data compared to the previous version altered.**

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

1: Identification

1.1 Product identifier

Trade name: Random Primers

Article number: C118

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

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals

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.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: Random Primers

(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: 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.

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 05/23/2015

Reviewed on 05/22/2015

Trade name: Random Primers

(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
Odour threshold:	Not determined.

pH-value at 20 °C (68 °F): 7

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 05/23/2015

Reviewed on 05/22/2015

Trade name: *Random Primers*

(Contd. of page 3)

Explosion limits:**Lower:** Not determined.**Upper:** Not determined.**Vapor pressure:** Not determined.**Density:** Not determined.**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Fully miscible.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Organic solvents:** 0.0 %**Water:** 99.9 %**9.2 Other information** No further relevant information available.* **10: Stability and reactivity****10.1 Reactivity****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:****LD/LC50 values that are relevant for classification:** No data available**Primary irritant effect:****on the skin:** No irritant effect.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

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

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

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

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: Random Primers

(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.

Ecotoxicological 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 05/23/2015

Reviewed on 05/22/2015

Trade name: Random Primers

(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": -

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.

Carcinogen categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: Random Primers

(Contd. of page 6)

*Madison, WI**Ph:(608)274-4330***Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organization**ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**GHS: Globally Harmonized System of Classification and Labeling of Chemicals**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**** Data compared to the previous version altered.**

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

1: Identification

1.1 Product identifier

Trade name: GoScript™ 5x Reaction Buffer

Article number: A500

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

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals

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 = 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 05/23/2015

Reviewed on 04/30/2015

Trade name: GoScript™ 5x Reaction Buffer

(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

3.2 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:

77-86-1	2-Amino-2-(hydroxymethyl)-1,3-propanediol	<2.00%
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	

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).

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

Trade name: GoScript™ 5x Reaction Buffer

(Contd. of page 2)

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.

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
Odour threshold:	Not determined.

pH-value at 20 °C (68 °F): 8.3

Change in condition

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

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

Trade name: GoScript™ 5x Reaction Buffer

(Contd. of page 3)

Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
Water:	92.4 %
Solids content:	8.8 %
9.2 Other information	No further relevant information available.

* 10: Stability and reactivity

10.1 Reactivity

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:

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

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

Trade name: GoScript™ 5x Reaction Buffer

(Contd. of page 4)

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

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

* 12: Ecological information

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.

Ecotoxicical 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

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

Trade name: GoScript™ 5x Reaction Buffer

(Contd. of page 5)

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":

-

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.

Carcinogeny categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 04/30/2015

Trade name: GoScript™ 5x Reaction Buffer**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. of page 6)

16: Other information

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

Department issuing SDS:

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

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
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
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/23/2015

1: Identification**1.1 Product identifier****Trade name:** GoScript™ Reverse Transcriptase**Article number:** A501**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals**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 = 1

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 1

Fire = 1

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** May cause Kidney damage (Nephrotoxin)**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 05/23/2015

Reviewed on 05/23/2015

Trade name: GoScript™ Reverse Transcriptase

(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:

56-81-5	glycerol	50-75%
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Additional information: For the wording of the listed risk phrases refer to section 15.

4: First-aid measures

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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/23/2015

Trade name: GoScript™ Reverse Transcriptase

(Contd. of page 2)

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: No special measures required.

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:

56-81-5 glycerol

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

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

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

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
Odour threshold:	Not determined.

pH-value at 20 °C (68 °F):	7.4
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Change in condition

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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/23/2015

Trade name: GoScript™ Reverse Transcriptase

(Contd. of page 3)

Flash point:	> 100 °C (> 212 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	400 °C (752 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	0.9 Vol %
Upper:	Not determined.
Vapor pressure at 20 °C (68 °F):	0.1 hPa
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	62.5 %
Water:	35.7 %
9.2 Other information	No further relevant information available.

10: Stability and reactivity

10.1 Reactivity

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:

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

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

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

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/23/2015

Trade name: GoScript™ Reverse Transcriptase

(Contd. of page 4)

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12: Ecological information

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.

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes:

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

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

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

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/23/2015

Trade name: GoScript™ Reverse Transcriptase

(Contd. of page 5)

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":	-
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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):

56-81-5	glycerol
7647-14-5	sodium chloride
1185-53-1	2-Amino-2-(hydroxymethyl)-1,3-propanediolhydrochloride
7732-18-5	water

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/23/2015

Trade name: GoScript™ Reverse Transcriptase

(Contd. of page 6)

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: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

1: Identification**1.1 Product identifier****Trade name:** MgCl₂, 25mM**Article number:** A351**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals**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.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: MgCl₂, 25mM

(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: 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.

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 05/23/2015

Reviewed on 05/22/2015

Trade name: MgCl₂, 25mM

(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
Odour 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.

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 05/23/2015

Reviewed on 05/22/2015

Trade name: MgCl₂, 25mM

(Contd. of page 3)

Explosion limits:**Lower:** Not determined.**Upper:** Not determined.**Vapor pressure:** Not determined.**Density:** Not determined.**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Fully miscible.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Organic solvents:** 0.0 %**Water:** 100.0 %**Solids content:** 0.1 %**9.2 Other information** No further relevant information available.**10: Stability and reactivity****10.1 Reactivity****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:****LD/LC50 values that are relevant for classification:** No data available**Primary irritant effect:****on the skin:** No irritant effect.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

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

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

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

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: MgCl₂, 25mM

(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.***Ecotoxicological 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 05/23/2015

Reviewed on 05/22/2015

Trade name: MgCl₂, 25mM

(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": -

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.

Carcinogen categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: MgCl₂, 25mM

(Contd. of page 6)

*Madison, WI**Ph:(608)274-4330***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**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**** Data compared to the previous version altered.**

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

1: Identification**1.1 Product identifier****Trade name:** rRNasin RNase Inhibitor**Article number:** N251**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals**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 = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 1

Fire = 1

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** May cause Kidney damage (Nephrotoxin)**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 05/23/2015

Reviewed on 05/22/2015

Trade name: rRNasin RNase Inhibitor

(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:

56-81-5	glycerol	25-50%
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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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: rRNasin RNase Inhibitor

(Contd. of page 2)

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: No special measures required.
- 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:

56-81-5 glycerol

PEL Long-term value: 15* 5** mg/m³
 mist; *total dust **respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

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

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
Odour threshold:	Not determined.

pH-value at 20 °C (68 °F):	7.6
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Change in condition

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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: rRNasin RNase Inhibitor

(Contd. of page 3)

Flash point:	> 100 °C (> 212 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	400 °C (752 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	0.9 Vol %
Upper:	Not determined.
Vapor pressure at 20 °C (68 °F):	0.1 hPa
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	50.0 %
Water:	46.0 %
9.2 Other information	No further relevant information available.

10: Stability and reactivity

10.1 Reactivity

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:

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

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

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

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: rRNasin RNase Inhibitor

(Contd. of page 4)

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

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12: Ecological information**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.**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:**

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

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

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

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: rRNasin RNase Inhibitor

(Contd. of page 5)

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

56-81-5	glycerol
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75277-39-3	4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid sodium salt
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7447-40-7	potassium chloride
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3483-12-3	DL-Dithiothreitol
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7732-18-5	water
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Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

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

None of the ingredients are listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/23/2015

Reviewed on 05/22/2015

Trade name: rRNasin RNase Inhibitor

(Contd. of page 6)

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: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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