

| Product code | Description |
|--------------|---|
| Z1002 | ReliaPrep™ FFPE Total RNA MiniPrepSystem |

Components:

| | |
|-------|--|
| P119 | Nuclease-Free Water |
| A244 | Mineral Oil |
| Z101 | Lysis Buffer (LBA) |
| A505A | Proteinase K (PK) Solution |
| Z318 | 0.09M MnCl ₂ |
| Z104A | Wash Solution |
| A247A | ReliaPrep™ FFPE Binding Columns Article |
| Z358A | DNase I (lyophilized) Add 275µl of Nuclease-Free Water |
| Z102 | DNase Buffer |
| Z103A | BL Buffer |
| MC122 | Blue Dye |

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

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

7732-18-5

EC number:

231-791-2

Application of the substance / the preparation: Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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

SDS author: Regulatory.Affairs@promega.com**Further information obtainable from:**

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification**Classification of the substance or mixture**

This product contains a CRM (carcinogen, reproductive hazard or mutagen) at a level below 1% and greater than 0.1%. Although CRMs at this level are below notification under the CLP, our labels reflect the pictogram and hazard statement to communicate this hazard to our customers. Please use caution when working with this material.

Label elements**GHS label elements** Not applicable**Hazard pictograms** Not applicable**Signal word** Not applicable

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Trade name: Nuclease-Free Water

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Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

* 3 Composition/information on ingredients

Chemical characterisation: Substances

CAS No. Description:

7732-18-5 water

Identification number(s):

EC number: 231-791-2

* 4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

* 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

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Trade name: Nuclease-Free Water

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See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling No special measures required.

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

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

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Odourless |
| Odour threshold: | Not determined. |

Change in condition

| | |
|---|-----------------|
| Melting point/freezing point: | 0 °C (32 °F) |
| Initial boiling point and boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable |

| | |
|--------------------------------------|-----------------|
| Flammability (solid, gaseous) | Not applicable. |
| Decomposition temperature: | Not determined. |

| | |
|-----------------------------------|-----------------|
| Auto-ignition temperature: | Not determined. |
|-----------------------------------|-----------------|

| | |
|------------------------------|---|
| Explosive properties: | Product does not present an explosion hazard. |
|------------------------------|---|

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Trade name: *Nuclease-Free Water*

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Explosion limits:**Lower:** *Not determined.***Upper:** *Not determined.***Vapour pressure:** *Not determined.***Density at 20 °C (68 °F):** *1 g/cm³ (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):** *0.0952 mPas***kinematic:** *Not determined.***Water:** *100.0 %***Solids content:** *0.0 %***Other information** *No further relevant information available.*

10 Stability and reactivity

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

11 Toxicological information

Information on toxicological effects**Acute toxicity****LD/LC50 values relevant for classification:** *No data available***Primary irritant effect:****Skin corrosion/irritation** *No irritant effect.***Serious eye damage/irritation** *No irritating effect.***Respiratory or skin sensitisation** *No sensitising effects known.***Additional toxicological information:***The substance is not subject to classification according to the latest version of the EU lists.*

12 Ecological information

Toxicity**Aquatic toxicity:***Not available**No further relevant information available.***Persistence and degradability:***Not available**No further relevant information available.*

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Trade name: Nuclease-Free Water

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Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

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

Generally not hazardous for water.

Not known to be hazardous to water.

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

13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

| | |
|---|--|
| UN-Number ADR, ADN, IMDG, IATA | Not hazardous for transportation Not applicable |
| UN proper shipping name ADR, IMDG, IATA ADN | None Not applicable |
| Transport hazard class(es) ADR, ADN, IMDG, IATA | None |
| Class | Not applicable |
| Packing group ADR, IMDG, IATA | None Not applicable |
| Environmental hazards: Marine pollutant: | No |
| Special precautions for user | Not applicable. |
| Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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Trade name: Nuclease-Free Water

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UN "Model Regulation":

Not applicable

15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

Substance is not listed. This product is for research and development use only.

Waterhazard class: Generally not hazardous for water.

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision 11/13/2019 / -

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

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: Mineral Oil

Article number: A244

CAS Number:

8042-47-5

EC number:

232-455-8

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture

This product contains a CRM (carcinogen, reproductive hazard or mutagen) at a level below 1% and greater than 0.1%. Although CRMs at this level are below notification under the CLP, our labels reflect the pictogram and hazard statement to communicate this hazard to our customers. Please use caution when working with this material.

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

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Trade name: Mineral Oil

(Contd. of page 1)

Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

* 3 Composition/information on ingredients

Chemical characterisation: Substances

CAS No. Description:

8042-47-5 White mineral oil, petroleum

Identification number(s):

EC number: 232-455-8

* 4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

* 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: No special measures required.

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

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Trade name: Mineral Oil

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See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling No special measures required.

Information about fire - and explosion protection: No special measures required.

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

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

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Viscous |
| Colour: | Colourless |
| Odour: | Light |
| Odour threshold: | Not determined. |

pH-value: Not applicable.

Change in condition

| | |
|---|---------------------|
| Melting point/freezing point: | 160 °C (320 °F) |
| Initial boiling point and boiling range: | 260 °C (500 °F) |
| Flash point: | >112 °C (>233.6 °F) |

Flammability (solid, gaseous) Product is not flammable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Not determined.

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Trade name: Mineral Oil

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| | |
|------------------------------|---|
| Explosive properties: | Product does not present an explosion hazard. |
| Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| Vapour pressure: | Not applicable. |

| | |
|--|---|
| Density at 20 °C (68 °F): | 0.88 g/cm ³ (7.3436 lbs/gal) |
| Relative density | Not determined. |
| Vapour density | Not applicable. |
| Evaporation rate | Not applicable. |
| Solubility in / Miscibility with | |
| Water: | Insoluble |
| Partition coefficient: n-octanol/water: | Not determined. |
| Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |

| | |
|--------------------------|--|
| Solids content: | 100.0 % |
| Other information | No further relevant information available. |

* 10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known

* 11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification: No data available

Primary irritant effect:

Skin corrosion/irritation No irritant effect.

Serious eye damage/irritation No irritating effect.

Respiratory or skin sensitisation No sensitising effects known.

Additional toxicological information:

The substance is not subject to classification according to the latest version of the EU lists.

* 12 Ecological information

Toxicity

Aquatic toxicity:

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

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Trade name: Mineral Oil

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Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

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

Generally not hazardous for water.

Not known to be hazardous to water.

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

13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

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

14 Transport information

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

US

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Trade name: Mineral Oil

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15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

Substance is not listed. This product is for research and development use only.

Waterhazard class: Generally not hazardous for water.

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision 11/13/2019 / -

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

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

* **1 Identification**

Product identifier

Trade name: Lysis Buffer (LBA)

Article number: Z101

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

* **2 Hazard(s) identification**

Classification of the substance or mixture

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

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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Trade name: Lysis Buffer (LBA)

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components:

| | | |
|-----------|----------|------|
| 1185-53-1 | Tris HCl | 1-5% |
|-----------|----------|------|

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

4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions:

Dilute with plenty of water.

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

Methods and material for containment and cleaning up:

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 13 for disposal information.

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Trade name: Lysis Buffer (LBA)

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7 Handling and storage

Handling

Precautions for safe handling No special measures required.

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

pH-value at 20 °C (68 °F): 7.3

Change in condition

| | |
|---|-----------------|
| Melting point/freezing point: | 0 °C (32 °F) |
| Initial boiling point and boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable |

| | |
|--------------------------------------|-----------------|
| Flammability (solid, gaseous) | Not applicable. |
| Decomposition temperature: | Not determined. |

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acc. to OSHA HCS

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Trade name: **Lysis Buffer (LBA)**

(Contd. of page 3)

| | |
|--|---|
| Auto-ignition temperature: | Product is not selfigniting. |
| Explosive properties: | Product does not present an explosion hazard. |
| Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| Vapour pressure: | Not determined. |
| Density at 20 °C (68 °F): | 0.995 g/cm ³ (8.30328 lbs/gal) |
| Relative density | Not determined. |
| Vapour density | Not determined. |
| Evaporation rate | Not determined. |
| Solubility in / Miscibility with | |
| Water: | Fully miscible |
| Partition coefficient: n-octanol/water: | Not determined. |
| Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| Water: | 94.4 % |
| Solids content: | 5.2 % |
| Other information | No further relevant information available. |

* 10 Stability and reactivity

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

* 11 Toxicological information

Information on toxicological effects
Acute toxicity
LD/LC50 values relevant for classification: No data available
Primary irritant effect:
Skin corrosion/irritation No irritant effect.
Serious eye damage/irritation No irritating effect.
Respiratory or skin sensitisation No sensitising effects known.
Additional toxicological information:
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: **Lysis Buffer (LBA)**

(Contd. of page 4)

12 Ecological information

Toxicity**Aquatic toxicity:**

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

Mobility in soil No further relevant information available.**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:** Not known to be hazardous to water.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.

13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

| | |
|---|--|
| UN-Number ADR, ADN, IMDG, IATA | Not hazardous for transportation Not applicable |
| UN proper shipping name ADR, ADN, IMDG, IATA | None Not applicable |
| Transport hazard class(es) ADR, ADN, IMDG, IATA | None |
| Class | Not applicable |
| Packing group ADR, IMDG, IATA | None Not applicable |
| Environmental hazards: Marine pollutant: | No |

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Lysis Buffer (LBA)

(Contd. of page 5)

Special precautions for user *Not applicable.*

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

UN "Model Regulation": *Not applicable*

15 Regulatory information

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

GHS label elements *Not applicable*

Signal word *Not applicable*

Hazard statements *Not applicable*

Directive 2012/18/EU

Named dangerous substances - ANNEX I

None of the ingredients is listed. This product is for research and development use only.

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

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision *11/13/2019 / -*

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 Organisation

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

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: Proteinase K (PK) Solution

Article number: A505A

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture



GHS08 health hazard

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

Label elements

GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms GHS08

Signal word Danger

Hazard-determining components of labelling:

Proteinase, Tritirachium album serine

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Proteinase K (PK) Solution

(Contd. of page 1)

Hazard statements

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

Precautionary statements

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

Wear respiratory protection.

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

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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

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

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterisation: Mixtures**Description:**

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components:

| | | |
|------------|---------------------------------------|--------|
| 56-81-5 | glycerol | 25-50% |
| 39450-01-6 | Proteinase, Tritirachium album serine | 1-5% |

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

4 First-aid measures

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

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

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

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

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

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media**Suitable extinguishing agents:**

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Proteinase K (PK) Solution

(Contd. of page 2)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

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

Methods and material for containment and cleaning up:

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

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Work only in fume cupboard.

Information about fire - and explosion protection: Keep respiratory protective device available.

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Proteinase K (PK) Solution

(Contd. of page 3)

Do not eat or drink while working.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:

Protective gloves.

Select the glove material considering penetration time, rate of diffusion and degradation time.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it or AS/NZS 2161.

Material of gloves:

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

Eye protection:

Safety glasses

Use equipment for eye protection tested and approved under government standard EN 166(EU) or AS/NZS 1336, 1137 and 1138.

* 9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

pH-value at 20 °C (68 °F): 7.2

Change in condition

| | |
|---|---------------------|
| Melting point/freezing point: | undetermined |
| Initial boiling point and boiling range: | 100 °C (212 °F) |
| Flash point: | > 100 °C (> 212 °F) |

Flammability (solid, gaseous) Not applicable.

Ignition temperature: 400 °C (752 °F)

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

| | |
|--|-----------|
| Lower: | 0.9 Vol % |
| Upper: | 0.0 Vol % |
| Vapour pressure at 20 °C (68 °F): | <0.1 hPa |

Density at 20 °C (68 °F): 1.13146 g/cm³ (9.44203 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.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

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Trade name: Proteinase K (PK) Solution

(Contd. of page 4)

| | |
|--------------------------|--|
| Viscosity: | |
| <i>dynamic:</i> | Not determined. |
| <i>kinematic:</i> | Not determined. |
| Organic solvents: | 50.0 % |
| Water: | 47.8 % |
| Solids content: | 2.2 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

Information on toxicological effects
Acute toxicity
LD/LC50 values relevant for classification: No data available
Primary irritant effect:
Skin corrosion/irritation No data available.
Serious eye damage/irritation No data available.
Respiratory or skin sensitisation Sensitisation possible through inhalation.
Additional toxicological information:
 The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
 Harmful

12 Ecological information

Toxicity
Aquatic toxicity:
 Not available
 No further relevant information available.
Persistence and degradability:
 Not available
 No further relevant information available.
Behaviour in environmental systems:
Bioaccumulative potential
 Not known
 No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Not available

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Proteinase K (PK) Solution

(Contd. of page 5)

Additional ecological information:**General notes:** No data available.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.

* 13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

* 14 Transport information

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

* 15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture**GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).**Signal word** Danger**Hazard-determining components of labelling:**

Proteinase, Tritirachium album serine

Hazard statements

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

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Proteinase K (PK) Solution

(Contd. of page 6)

Precautionary statements

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

Wear respiratory protection.

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

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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

Directive 2012/18/EU**Named dangerous substances - ANNEX I**

None of the ingredients is listed. This product is for research and development use only.

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

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision *11/13/2019 / -*

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

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Resp. Sens. 1: Respiratory sensitisation – Category 1

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

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: 0.09M MnCl₂

Article number: Z318

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: 0.09M MnCl2

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components: Not applicable

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

4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling No special measures required.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: 0.09M MnCl₂

(Contd. of page 2)

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

* 8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

* 9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

| | |
|-----------------------------------|---|
| pH-value at 20 °C (68 °F): | 5 |
|-----------------------------------|---|

Change in condition

Melting point/freezing point: 0 °C (32 °F)

Initial boiling point and boiling range: undetermined

Flash point: Not applicable

Flammability (solid, gaseous) Not applicable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: 0.09M MnCl2

(Contd. of page 3)

| | |
|--|--|
| Vapour 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. |
| Water: | 99.1 % |
| Solids content: | 1.0 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification: No data available

Primary irritant effect:

Skin corrosion/irritation No irritant effect.

Serious eye damage/irritation No irritating effect.

Respiratory or skin sensitisation No sensitising effects known.

Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

12 Ecological information

Toxicity

Aquatic toxicity:

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: 0.09M MnCl2

(Contd. of page 4)

Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

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

Generally not hazardous for water.

Not known to be hazardous to water.

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

13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

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

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: 0.09M MnCl2

(Contd. of page 5)

15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

None of the ingredients is listed. This product is for research and development use only.

Waterhazard class: Generally not hazardous for water.

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision 11/13/2019 / -

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 Organisation

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

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: Wash Solution

Article number: Z104A

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Wash Solution

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components: Not applicable

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

4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling No special measures required.

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Safety Data Sheet

acc. to OSHA HCS

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Revision: 11/13/2019

Trade name: Wash Solution

(Contd. of page 2)

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

| | |
|-----------------------------------|-----|
| pH-value at 20 °C (68 °F): | 7.5 |
|-----------------------------------|-----|

Change in condition

| | |
|---|-----------------|
| Melting point/freezing point: | 0 °C (32 °F) |
| Initial boiling point and boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable |

| | |
|--------------------------------------|-----------------|
| Flammability (solid, gaseous) | Not applicable. |
| Decomposition temperature: | Not determined. |

| | |
|-----------------------------------|------------------------------|
| Auto-ignition temperature: | Product is not selfigniting. |
|-----------------------------------|------------------------------|

| | |
|------------------------------|---|
| Explosive properties: | Product does not present an explosion hazard. |
|------------------------------|---|

Explosion limits:

| | |
|---------------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Wash Solution

(Contd. of page 3)

| | |
|--|---|
| Vapour pressure: | Not determined. |
| Density at 20 °C (68 °F): | 0.99169 g/cm ³ (8.27565 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): | 0.0952 mPas |
| kinematic: | Not determined. |
| Water: | 98.0 % |
| Solids content: | 2.0 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification: No data available

Primary irritant effect:

Skin corrosion/irritation No irritant effect.

Serious eye damage/irritation No irritating effect.

Respiratory or skin sensitisation No sensitising effects known.

Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

12 Ecological information

Toxicity

Aquatic toxicity:

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

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US

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acc. to OSHA HCS

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Trade name: Wash Solution

(Contd. of page 4)

Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

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

Generally not hazardous for water.

Not known to be hazardous to water.

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

13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

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

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

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Revision: 11/13/2019

Trade name: Wash Solution

(Contd. of page 5)

15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

None of the ingredients is listed. This product is for research and development use only.

Waterhazard class: Generally not hazardous for water.

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision 11/13/2019 / -

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

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification**Product identifier****Trade name:** ReliaPrep™ FFPE Binding Columns**Article number:** A247A**Application of the substance / the preparation:** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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

SDS author: Regulatory.Affairs@promega.com**Further information obtainable from:**

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification**Classification of the substance or mixture**

This product contains a CRM (carcinogen, reproductive hazard or mutagen) at a level below 1% and greater than 0.1%. Although CRMs at this level are below notification under the CLP, our labels reflect the pictogram and hazard statement to communicate this hazard to our customers. Please use caution when working with this material.

Label elements**GHS label elements** Not applicable**Hazard pictograms** Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: ReliaPrep™ FFPE Binding Columns

vPvB: Not applicable.

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterisation: Substances

CAS No. Description:

Article

* 4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

* 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

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

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 13 for disposal information.

* 7 Handling and storage

Handling

Precautions for safe handling No special measures required.

Information about fire - and explosion protection: The product is not flammable

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: ReliaPrep™ FFPE Binding Columns

(Contd. of page 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.

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

* 8 Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

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

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

* 9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Solid material.

Colour: Colourless

Odour: Not determined

Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/freezing point: undetermined

Initial boiling point and boiling range: undetermined

Flash point: Not applicable

Flammability (solid, gaseous) Product is not flammable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Not determined.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapour pressure: Not applicable.

Density: Not determined

Relative density: Not determined.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: ReliaPrep™ FFPE Binding Columns

(Contd. of page 3)

| | |
|--|--|
| Vapour density | Not applicable. |
| Evaporation rate | Not applicable. |
| Solubility in / Miscibility with | |
| Water: | Insoluble |
| Partition coefficient: n-octanol/water: | Not determined. |
| Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |
| Other information | No further relevant information available. |

* 10 Stability and reactivity

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

* 11 Toxicological information

Information on toxicological effects
Acute toxicity
LD/LC50 values relevant for classification: No data available
Primary irritant effect:
Skin corrosion/irritation No irritant effect.
Serious eye damage/irritation No irritating effect.
Respiratory or skin sensitisation No sensitising effects known.
Additional toxicological information:
The substance is not subject to classification according to the latest version of the EU lists.

* 12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.
Persistence and degradability:
Not available
No further relevant information available.
Behaviour in environmental systems:
Bioaccumulative potential
Not known
No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Not available
Additional ecological information:
General notes: Not known to be hazardous to water.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: ReliaPrep™ FFPE Binding Columns

(Contd. of page 4)

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

* 13 Disposal considerations

Waste treatment methods

Recommendation

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

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

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

* 14 Transport information

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

* 15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

Substance is not listed. This product is for research and development use only.

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

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: ReliaPrep™ FFPE Binding Columns

(Contd. of page 5)

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
 Safety Department
 2800 Woods Hollow Road
 Madison, WI 53711
 U.S.A.

Date of preparation / last revision 11/13/2019 / -

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 Organisation

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

IATA: International Air Transport Association

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: DNase I (lyophilized)

Article number: Z358A

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture



GHS08 health hazard

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

Label elements

GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms GHS08

Signal word Danger

Hazard-determining components of labelling:

Nuclease, deoxyribo-

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Safety Data Sheet

acc. to OSHA HCS

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Trade name: DNase I (lyophilized)

(Contd. of page 1)

Hazard statements

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

Precautionary statements

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

Wear respiratory protection.

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

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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

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

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterisation: Mixtures**Description:**

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components:

| | | |
|------------|----------------------|--------|
| 1185-53-1 | Tris HCl | 15-20% |
| 9003-98-9 | Nuclease, deoxyribo- | 5-10% |
| 10043-52-4 | Calcium chloride | 1-5% |

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

4 First-aid measures

Description of first aid measures

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media**Suitable extinguishing agents:**

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase I (lyophilized)

(Contd. of page 2)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Avoid formation of dust.

Wear protective clothing.

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

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

Reference to other sections

See Section 7 for information on safe handling

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling No special precautions are necessary if used correctly.

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures Wash hands before breaks and at the end of work.

Respiratory protection: Not required.

Protection of hands:

Protective gloves.

Select the glove material considering penetration time, rate of diffusion and degradation time.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it or AS/NZS 2161.

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:

Use equipment for eye protection tested and approved under government standard EN 166(EU) or AS/NZS 1336, 1137 and 1138.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase I (lyophilized)

(Contd. of page 3)

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Solid. |
| Colour: | Colourless |
| Odour: | Odourless |
| Odour threshold: | Not determined. |

pH-value: Not applicable.

Change in condition

| | |
|---|----------------------|
| Melting point/freezing point: | undetermined |
| Initial boiling point and boiling range: | 1,500 °C (34.700 °F) |
| Flash point: | Not applicable |

Flammability (solid, gaseous): Not determined.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

| | |
|-------------------------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |
| Vapour pressure: | Not applicable. |

Density: Not determined

Relative density: Not determined.

Vapour density: Not applicable.

Evaporation rate: Not applicable.

Solubility in / Miscibility with

| | |
|--|-----------------|
| Water: | Soluble |
| Partition coefficient: n-octanol/water: | Not determined. |
| Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |
| Water: | 0.0 % |

Solids content: 100.0 %

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.

Chemical stability

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

Possibility of hazardous reactions: No dangerous reactions known

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known

US
(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase I (lyophilized)

(Contd. of page 4)

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification: No data available

Primary irritant effect:

Skin corrosion/irritation No data available.

Serious eye damage/irritation No data available.

Respiratory or skin sensitisation No sensitising effects known.

Additional toxicological information:

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

12 Ecological information

Toxicity

Aquatic toxicity:

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

Behaviour in environmental systems:

Bioaccumulative potential

Not known

No further relevant information available.

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: No data available.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation

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

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

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

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

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase I (lyophilized)

(Contd. of page 5)

14 Transport information

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

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).
Signal word Danger

Hazard-determining components of labelling:

Nuclease, deoxyribo-

Hazard statements

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

Precautionary statements

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

Wear respiratory protection.

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

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I

None of the ingredients is listed. This product is for research and development use only.

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

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

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Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase I (lyophilized)

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2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision 11/13/2019 / -**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 Organisation**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**IATA: International Air Transport Association**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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Resp. Sens. 1: Respiratory sensitisation – Category 1**** Data compared to the previous version altered.**

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: DNase Buffer

Article number: Z102

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase Buffer

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components:

| | | |
|------------|--------------------------|-------|
| 61790-82-7 | Ethoxylated Alkyl Amines | 5-10% |
|------------|--------------------------|-------|

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

4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions:

Dilute with plenty of water.

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

Methods and material for containment and cleaning up:

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 13 for disposal information.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase Buffer

(Contd. of page 2)

7 Handling and storage

Handling

Precautions for safe handling No special measures required.

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

Change in condition

| | |
|---|----------------|
| Melting point/freezing point: | undetermined |
| Initial boiling point and boiling range: | undetermined |
| Flash point: | Not applicable |

| | |
|--------------------------------------|-----------------|
| Flammability (solid, gaseous) | Not applicable. |
| Decomposition temperature: | Not determined. |

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase Buffer

(Contd. of page 3)

Explosion limits:**Lower:** Not determined.**Upper:** Not determined.**Vapour 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.**Water:** 90.0 %**Other information** No further relevant information available.

* 10 Stability and reactivity

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

* 11 Toxicological information

Information on toxicological effects**Acute toxicity****LD/LC50 values relevant for classification:** No data available**Primary irritant effect:****Skin corrosion/irritation** No irritant effect.**Serious eye damage/irritation** No irritating effect.**Respiratory or skin sensitisation** No sensitising effects known.**Additional toxicological information:**

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

* 12 Ecological information

Toxicity**Aquatic toxicity:**

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

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Safety Data Sheet

acc. to OSHA HCS

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Trade name: DNase Buffer

(Contd. of page 4)

Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

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

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

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Not known to be hazardous to water.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.* **13 Disposal considerations****Waste treatment methods****Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.* **14 Transport information**

| | |
|---|--|
| UN-Number ADR, ADN, IMDG, IATA | Not hazardous for transportation Not applicable |
| UN proper shipping name ADR, ADN, IMDG, IATA | None Not applicable |
| Transport hazard class(es) ADR, ADN, IMDG, IATA | None |
| Class | Not applicable |
| Packing group ADR, IMDG, IATA | None Not applicable |
| Environmental hazards: Marine pollutant: | No |
| Special precautions for user | Not applicable. |
| Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: DNase Buffer

(Contd. of page 5)

UN "Model Regulation":

Not applicable

15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

None of the ingredients is listed. This product is for research and development use only.

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

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Safety Department

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

Date of preparation / last revision 11/13/2019 / -

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

1 Identification

Product identifier

Trade name: BL Buffer

Article number: Z103A

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

2 Hazard(s) identification

Classification of the substance or mixture



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

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Safety Data Sheet

acc. to OSHA HCS

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Revision: 11/13/2019

Trade name: **BL Buffer**

(Contd. of page 1)

Acute Tox. 4 H332 Harmful if inhaled.

Label elements

GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms GHS05, GHS07

Signal word Danger

Hazard-determining components of labelling:

guanidinium thiocyanate

Hazard statements

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

Precautionary statements

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER/doctor.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

Store locked up.

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

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

PBT: Not applicable.

vPvB: Not applicable.

* 3 Composition/information on ingredients

Chemical characterisation: Mixtures**Description:**

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components:

| | | |
|----------|-------------------------|--------|
| 593-84-0 | guanidinium thiocyanate | 25-50% |
|----------|-------------------------|--------|

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

* 4 First-aid measures

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

Immediately remove any clothing soiled by the product.

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

Seek medical treatment.

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Trade name: BL Buffer

(Contd. of page 2)

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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

Seek medical treatment in case of complaints.

After skin contact:

Immediately wash with soap, water and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact: Call a doctor immediately.

After swallowing:

Drink plenty of water and provide fresh air. Call for a doctor immediately.

Seek immediate medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

* 5 Fire-fighting measures

Extinguishing media**Suitable extinguishing agents:**

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

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

Protective equipment: Mount respiratory protective device.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Keep people at a distance and stay on the windward side.

Wear protective clothing.

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

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

Methods and material for containment and cleaning up:

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

Use neutralising agent.

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

Keep away from water.

Reference to other sections

See Section 7 for information on safe handling

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Safety Data Sheet

acc. to OSHA HCS

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Revision: 11/13/2019

Trade name: **BL Buffer**

(Contd. of page 3)

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

Information about storage in one common storage facility: Do not store together with acids.

Further information about storage conditions: Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Select the glove material considering penetration time, rate of diffusion and degradation time.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it or AS/NZS 2161.

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.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

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Trade name: **BL Buffer**

(Contd. of page 4)

Eye protection:

Tightly sealed goggles.

Use equipment for eye protection tested and approved under government standard EN 166(EU) or AS/NZS 1336, 1137 and 1138.

* 9 Physical and chemical properties

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

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

| | |
|-----------------------------------|-----|
| pH-value at 20 °C (68 °F): | 7.5 |
|-----------------------------------|-----|

Change in condition

| | |
|---|-----------------|
| Melting point/freezing point: | undetermined |
| Initial boiling point and boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable |

| | |
|--------------------------------------|-----------------|
| Flammability (solid, gaseous) | Not applicable. |
| Decomposition temperature: | Not determined. |

| | |
|-----------------------------------|------------------------------|
| Auto-ignition temperature: | Product is not selfigniting. |
|-----------------------------------|------------------------------|

| | |
|------------------------------|---|
| Explosive properties: | Product does not present an explosion hazard. |
|------------------------------|---|

Explosion limits:

| | |
|-------------------------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |
| Vapour 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. |
| Water: | 52.6 % |

| | |
|--------------------------|--|
| Solids content: | 48.0 % |
| Other information | No further relevant information available. |

* 10 Stability and reactivity

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

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: **BL Buffer**

(Contd. of page 5)

Incompatible materials:

Exposure to strong acid will result in the generation of toxic gases

Exposure to bleach may result in the generation of toxic gas

Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

Information on toxicological effects**Acute toxicity****LD/LC50 values relevant for classification:****593-84-0 guanidinium thiocyanate**

| | | |
|--------|------|---|
| Oral | LD50 | 475 mg/kg (Rat) By analogy to guanidine hydrochloride |
| Dermal | LD50 | >2,000 mg/kg (Rabbit) By analogy to Guanidine hydrochloride. |

Primary irritant effect:**Skin corrosion/irritation** Caustic effect on skin and mucous membranes.**Serious eye damage/irritation** Strong caustic effect.**Respiratory or skin sensitisation** Sensitization possible through inhalation.**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

Harmful

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

Toxicity**Aquatic toxicity:** Harmful to aquatic life with long lasting effects**Persistence and degradability:**

Not available

No further relevant information available.

Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

Mobility in soil No further relevant information available.**Ecotoxic effects:****Remark:** Harmful to fish**Additional ecological information:****General notes:**

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

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

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

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

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Trade name: **BL Buffer**

(Contd. of page 6)

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods**Recommendation**

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

UN-Number**ADR, IMDG, IATA**

UN1760

UN proper shipping name**ADR
IMDG, IATA**

None

1760 CORROSIVE LIQUID, N.O.S. solution
CORROSIVE LIQUID, N.O.S. solution**Transport hazard class(es)****ADR**

None

**Class****Label**

8 (C9) Corrosive substances.

8

IMDG, IATA**Class****Label**

8 Corrosive substances.

8

Packing group**ADR, IMDG, IATA**

None

II

Environmental hazards:**Marine pollutant:**

No

Special precautions for user**Danger code (Kemler):****EMS Number:****Stowage Category****Stowage Code**

Warning: Corrosive substances.

80

F-A,S-B

B

SW2 Clear of living quarters.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: **BL Buffer**

(Contd. of page 7)

Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:**ADR**

Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

Transport category

2

Tunnel restriction code

E

IMDG

Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN 1760 CORROSIVE LIQUID, N.O.S. SOLUTION, 8, II

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture**GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).**Signal word** Danger**Hazard-determining components of labelling:**

guanidinium thiocyanate

Hazard statements

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

Precautionary statements

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER/doctor.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

Store locked up.

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

Directive 2012/18/EU**Named dangerous substances - ANNEX I**

None of the ingredients is listed. This product is for research and development use only.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: BL Buffer

(Contd. of page 8)

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

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

16 Other information

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

Department issuing SDS:

Promega Corporation
Safety Department
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.

Date of preparation / last revision 11/13/2019 / -

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 Organisation

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

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

* **1 Identification**

Product identifier

Trade name: Blue Dye

Article number: MC122

Application of the substance / the preparation: Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

SDS author: Regulatory.Affairs@promega.com

Further information obtainable from:

Promega UK
Delta House
Southampton Science Park
Southampton SO16 7NS
United Kingdom
Tel: (44) 23 8076 0225
Fax: (44) 23 8076 7014
Freephone: 0800 378994
E-mail Address: ukcustserve@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted). Within UK +(44)-870-8200418.

* **2 Hazard(s) identification**

Classification of the substance or mixture

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

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: Blue Dye

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterisation: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances.

Components: Not applicable

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

4 First-aid measures

Description of first aid measures

General information: No special measures required.

After inhalation: If the patient feels unwell or is concerned, obtain medical advice.

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

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

After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed

None

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:

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

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling No special measures required.

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Printing date 11/13/2019

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Trade name: Blue Dye

(Contd. of page 2)

Information about fire - and explosion protection: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

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

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

Further information about storage conditions: None.

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

* 8 Exposure controls/personal protection

Control parameters

Ingredients 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 valid during the making were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands: Not required.

Material of gloves:

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

Eye protection: Not required.

* 9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colourless |
| Odour: | Not determined |
| Odour threshold: | Not determined. |

pH-value at 20 °C (68 °F): 7.5

Change in condition

| | |
|---|-----------------|
| Melting point/freezing point: | undetermined |
| Initial boiling point and boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable |

Flammability (solid, gaseous) Not applicable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

| | |
|---------------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

(Contd. on page 4)

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Trade name: Blue Dye

(Contd. of page 3)

| | |
|--|--|
| Vapour 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 at 20 °C (68 °F): | 0.0952 mPas |
| kinematic: | Not determined. |
| Water: | 100.0 % |
| Solids content: | 0.0 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification: No data available

Primary irritant effect:

Skin corrosion/irritation No irritant effect.

Serious eye damage/irritation No irritating effect.

Respiratory or skin sensitisation No sensitising effects known.

Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

12 Ecological information

Toxicity

Aquatic toxicity:

Not available

No further relevant information available.

Persistence and degradability:

Not available

No further relevant information available.

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Trade name: **Blue Dye**

(Contd. of page 4)

Behaviour in environmental systems:**Bioaccumulative potential**

Not known

No further relevant information available.

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

Generally not hazardous for water.

Not known to be hazardous to water.

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

13 Disposal considerations

Waste treatment methods**Recommendation**

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

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

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

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/13/2019

Revision: 11/13/2019

Trade name: **Blue Dye**

(Contd. of page 5)

15 Regulatory information

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

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Directive 2012/18/EU

Named dangerous substances - ANNEX I

None of the ingredients is listed. This product is for research and development use only.

Waterhazard class: Generally not hazardous for water.

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

16 Other information

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