

| Product code | Description |
|--------------|--|
| A1470 | Wizard® Plus SV Miniprep DNA System |

Components:

| | |
|------|----------------------------------|
| A131 | Column Wash Solution (CWA) |
| A144 | Alkaline Protease Solution |
| A711 | Cell Resuspension Solution (CRA) |
| A712 | Cell Lysis Solution (CLA) |
| P119 | Nuclease-Free Water |
| A148 | Neutralization Solution (NSB) |



Safety Data Sheet acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

1 Identification

Product identifier**Trade name:** Column Wash Solution (CWA)**Article number:** A131**Application of the substance / the mixture** For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com**Emergency telephone number:**

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

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements**GHS label elements** Not applicable**Hazard pictograms** Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

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Trade name: Column Wash Solution (CWA)

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3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

The product is made up of a mixture of hazardous and non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components: Not applicable

Additional information: For the wording of the listed risk 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

None known

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.

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Trade name: Column Wash Solution (CWA)

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7 Handling and storage

Handling:

Precautions for safe handling No special measures required.

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

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light.

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

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

Material of gloves

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

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 |
| Color: | Colorless |
| Odor: | Not determined |
| Odor threshold: | Not determined. |

pH-value at 20 °C (68 °F): 7.4-7.7

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Trade name: Column Wash Solution (CWA)

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Change in condition

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

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

Ignition temperature: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not determined.

Density at 20 °C (68 °F): 0.99212 g/cm³ (8.27924 lbs/gal)

Relative density: Not determined.

Vapor density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

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

Viscosity:

Dynamic at 20 °C (68 °F): 0.0952 mPas

Kinematic: Not determined.

Solvent separation test

Water: 98.1 %

VOC content: 0.00 %

Solids content: 1.9 %

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 that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

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Sensitization:*In case of skin contact: not sensitising**In case of inhalation: not sensitising***Additional toxicological information:***The product is not subject to classification according to internally approved calculation methods for preparations:***Carcinogenic categories****IARC (International Agency for Research on Cancer)***None of the ingredients are listed.***NTP (National Toxicology Program)***None of the ingredients are listed.***OSHA-Ca (Occupational Safety & Health Administration)***None of the ingredients are listed.*

12 Ecological information

Toxicity*Aquatic toxicity: Not harmful to the aquatic environment***Persistence and degradability***Not available**No further relevant information available.***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 available.**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 packagings:***Recommendation: Disposal must be made according to official regulations.**Recommended cleansing agent: Water, if necessary with cleansing agents.*
 US
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Trade name: Column Wash Solution (CWA)

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14 Transport information

| | |
|---|----------------------------------|
| UN-Number | Not hazardous for transportation |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| UN proper shipping name | None |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| Transport hazard class(es) | None |
| DOT, ADR, ADN, IMDG, IATA Class | Not applicable |
| Packing group | None |
| DOT, 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 73/78 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
Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

None of the ingredients are listed.

Pennsylvania Right-to-Know List:

None of the ingredients are listed.

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Cancerogenity categories
EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value)

None of the ingredients are listed.

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

None of the ingredients are listed.

GHS label elements Not applicable

Signal word Not applicable

Hazard statements Not applicable

Chemical safety assessment
Water hazard class: Generally not hazardous for water.

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

16 Other information

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

Department issuing SDS:

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

chemicalregulatory@promega.com

Contact:
Date of preparation / last revision 12/31/2023

Abbreviations and acronyms:

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

ICAO: International Civil Aviation Organization

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit



Safety Data Sheet acc. to OSHA HCS

Printing date 12/31/2023

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1 Identification

Product identifier**Trade name:** Alkaline Protease Solution**Article number:** A144**Application of the substance / the mixture** For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com**Emergency telephone number:**

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

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture

GHS08 Health hazard

Sensitization - Respiratory 1

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

Toxic to Reproduction 1B

H360 May damage fertility or the unborn child.



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

Label elements**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: Alkaline Protease Solution

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Hazard pictograms

GHS05 GHS07 GHS08

Signal word Danger**Hazard-determining components of labeling:**

Subtilisin

disodium tetraborate, anhydrous

Hazard statements

Causes skin irritation.

Causes serious eye damage.

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

May damage fertility or the unborn child.

May cause respiratory irritation.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

Immediately call a poison center/doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

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

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

Health = 3

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *3

Fire = 0

Reactivity = 0

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

Toxic

Highly Toxic

Irritant

Sensitizer

Reproductive Hazard

Primary route(s) of entry: Inhalation**Target Organ(s):** Risk of damage to eyes

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Trade name: Alkaline Protease Solution

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

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:**

The product is made up of a mixture of hazardous and non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:

| | | |
|-----------|---------------------------------|--------|
| 57-55-6 | Propylene glycol | 20-25% |
| 9014-01-1 | Subtilisin | 20-25% |
| 1330-43-4 | disodium tetraborate, anhydrous | 1-5% |

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

4 First-aid measures

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

Immediately remove any clothing soiled by the product.

Take affected persons out into the fresh air.

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.

Seek medical treatment in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact: 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

None known

No further relevant information available.

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

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Trade name: Alkaline Protease Solution

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6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

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).

Use neutralizing agent.

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.

Open and handle receptacle with care.

Prevent formation of aerosols.

Work only in fume cabinet.

Information about protection against explosions and fires:

Keep respiratory protective device available.

The product is not flammable.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Keep receptacle tightly sealed.**Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

57-55-6 Propylene glycol

WEEL Long-term value: 10 mg/m³

9014-01-1 Subtilisin

REL Short-term value: 0.00006* mg/m³
*60-minTLV Ceiling limit value: 0.00006 mg/m³
as 100% crystalline active pure enzyme

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Trade name: Alkaline Protease Solution

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1330-43-4 disodium tetraborate, anhydrous

| | |
|-----|---|
| REL | Long-term value: 1 mg/m ³ anhydrous |
| TLV | Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction, A4 |

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

Exposure controls**Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat or drink while working.

Breathing equipment:

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

Protection of hands: Not required.

Material of gloves

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

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

Eye protection:

Tightly sealed goggles

Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

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

| | |
|------------------------|-----------------|
| Form: | Fluid |
| Color: | Colorless |
| Odor: | Not determined |
| Odor threshold: | Not determined. |

pH-value at 20 °C (68 °F): 6.3

Change in condition

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

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Trade name: Alkaline Protease Solution

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| | |
|---|---|
| Flash point: | Not applicable. |
| Flammability (solid, gaseous): | Not applicable. |
| Auto igniting: | 371 °C (699.8 °F) |
| Decomposition temperature: | Not determined. |
| Ignition temperature: | Product is not selfigniting. |
| Danger of explosion: | Product does not present an explosion hazard. |
| Explosion limits: | |
| Lower: | 2.6 Vol % |
| Upper: | 12.6 Vol % |
| Vapor pressure at 20 °C (68 °F): | 0.1 hPa |
| Density at 20 °C (68 °F): | 1.11529 g/cm ³ (9.3071 lbs/gal) |
| Relative density | Not determined. |
| Vapor density | Not determined. |
| Evaporation rate | Not determined. |
| Solubility in / Miscibility with | |
| Water: | Fully miscible. |
| Partition coefficient (n-octanol/water): | Not determined. |
| Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| Solvent separation test | |
| Organic solvents: | 25.0 % |
| Water: | 46.8 % |
| VOC content: | 25.00 % |
| Solids content: | 3.2 % |
| 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 that are relevant for classification:

9014-01-1 Subtilisin

| | | |
|------|------|-------------------|
| Oral | LD50 | 2,000 mg/kg (Rat) |
|------|------|-------------------|

Primary irritant effect:

on the skin: Causes skin irritation.

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Trade name: Alkaline Protease Solution

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on the eye: Causes serious eye damage.

Sensitization: Sensitization possible through inhalation.

Additional toxicological information:

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

OECD test guideline 471, Ames test.

Harmful

Irritant

Carcinogenic categories
IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

* 12 Ecological information

Toxicity
Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability

Not available

No further relevant information available.

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: Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

* 13 Disposal considerations

Waste treatment methods
Recommendation:

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

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

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

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

US

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acc. to OSHA HCS

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Reviewed on 12/30/2023

Trade name: Alkaline Protease Solution

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14 Transport information

| | |
|---|----------------------------------|
| UN-Number | Not hazardous for transportation |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| UN proper shipping name | |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| Transport hazard class(es) | |
| DOT, ADR, ADN, IMDG, IATA | |
| Class | Not applicable |
| Packing group | |
| DOT, 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 73/78 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
Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

57-55-6 Propylene glycol

Pennsylvania Right-to-Know List:

57-55-6 Propylene glycol

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Reviewed on 12/30/2023

Trade name: Alkaline Protease Solution

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1330-43-4 disodium tetraborate, anhydrous

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

1330-43-4 disodium tetraborate, anhydrous

I (oral)

TLV (Threshold Limit Value)

1330-43-4 disodium tetraborate, anhydrous

A4

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

None of the ingredients are listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).**Signal word** Danger**Hazard-determining components of labeling:**

Subtilisin

disodium tetraborate, anhydrous

Hazard statements

Causes skin irritation.

Causes serious eye damage.

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

May damage fertility or the unborn child.

May cause respiratory irritation.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

Immediately call a poison center/doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

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

Chemical safety assessment**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

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

Department issuing SDS:

Promega Corporation

Chemical Regulatory Department

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/30/2023

Trade name: Alkaline Protease Solution

(Contd. of page 9)

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

chemicalregulatory@promega.com

Contact:**Date of preparation / last revision 12/31/2023****Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Sensitization - Respiratory 1: Respiratory sensitisation – Category 1

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

US



Safety Data Sheet acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

1 Identification

Product identifier**Trade name:** Cell Resuspension Solution (CRA)**Article number:** A711**Application of the substance / the mixture** For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com**Emergency telephone number:**

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

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements**GHS label elements** Not applicable**Hazard pictograms** Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

Trade name: Cell Resuspension Solution (CRA)

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

The product is made up of a mixture of hazardous and non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components: Not applicable

Additional information: For the wording of the listed risk 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

None known

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.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

Trade name: Cell Resuspension Solution (CRA)

(Contd. of page 2)

7 Handling and storage

Handling:

Precautions for safe handling No special measures required.

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

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light.

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

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

Material of gloves

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

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 |
| Color: | Colorless |
| Odor: | Not determined |
| Odor threshold: | Not determined. |

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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

Trade name: Cell Resuspension Solution (CRA)

(Contd. of page 3)

Change in condition

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

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

Ignition temperature: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not determined.

Density at 20 °C (68 °F): 0.997 g/cm³ (8.31997 lbs/gal)

Relative density: Not determined.

Vapor density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

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

Viscosity:

Dynamic at 20 °C (68 °F): 0.0952 mPas

Kinematic: Not determined.

Solvent separation test

Water: 99.1 %

VOC content: 0.00 %

Solids content: 0.9 %

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 that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

Trade name: Cell Resuspension Solution (CRA)

(Contd. of page 4)

Sensitization:*In case of skin contact: not sensitising**In case of inhalation: not sensitising***Additional toxicological information:***The product is not subject to classification according to internally approved calculation methods for preparations:***Carcinogenic categories****IARC (International Agency for Research on Cancer)***None of the ingredients are listed.***NTP (National Toxicology Program)***None of the ingredients are listed.***OSHA-Ca (Occupational Safety & Health Administration)***None of the ingredients are listed.*

12 Ecological information

Toxicity*Aquatic toxicity: Not harmful to the aquatic environment***Persistence and degradability***Not available**No further relevant information available.***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 available.**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 packagings:***Recommendation: Disposal must be made according to official regulations.**Recommended cleansing agent: Water, if necessary with cleansing agents.*
 US
 (Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

Trade name: Cell Resuspension Solution (CRA)

(Contd. of page 5)

14 Transport information

| | |
|---|----------------------------------|
| UN-Number | Not hazardous for transportation |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| UN proper shipping name | None |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| Transport hazard class(es) | None |
| DOT, ADR, ADN, IMDG, IATA Class | Not applicable |
| Packing group | None |
| DOT, 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 73/78 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
Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

None of the ingredients are listed.

Pennsylvania Right-to-Know List:

None of the ingredients are listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/26/2023

Trade name: Cell Resuspension Solution (CRA)

(Contd. of page 6)

Cancerogenity categories
EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value)

None of the ingredients are listed.

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

None of the ingredients are listed.

GHS label elements Not applicable**Signal word** Not applicable**Hazard statements** Not applicable
Chemical safety assessment
Water hazard class: Generally not hazardous for water.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

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

Department issuing SDS:

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

chemicalregulatory@promega.com

Contact:
Date of preparation / last revision 12/31/2023
Abbreviations and acronyms:

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

ICAO: International Civil Aviation Organization

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

1 Identification**Product identifier****Trade name:** Cell Lysis Solution (CLA)**Article number:** A712**Application of the substance / the mixture** For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com**Emergency telephone number:**

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

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

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

Eye Irritation 2A H319 Causes serious eye irritation.

Label elements**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms**

GHS07

Signal word Warning**Hazard statements**

Causes serious eye irritation.

Precautionary statements

Wash thoroughly after handling.

Wear eye protection / face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 1)

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

Health = 2

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Irritant**Primary route(s) of entry:** Dermal**Target Organ(s):** Not applicable or unknown**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:**

The product is made up of a mixture of hazardous and non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:

151-21-3 sodium dodecyl sulphate

1-5%

Additional information: For the wording of the listed risk 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. If symptoms persist, consult a doctor.

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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture**

None known

No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 2)

Advice for firefighters No special advice.

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).

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

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light.

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

Further information about storage conditions: Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

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.

Breathing equipment: Not required.

Protection of hands: Not required.

Material of gloves

Chemical: sodium hydroxide, CAS number 1310-73-2

Glove Material: Nitrile

Glove thickness: 0.56 mm

Approx. Breakthrough Time: > 480 min.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 3)

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

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.

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 NIOSH standards.

9 Physical and chemical properties

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

| | |
|------------------------|-----------------|
| Form: | Fluid |
| Color: | Colorless |
| Odor: | Not determined |
| Odor threshold: | Not determined. |

pH-value at 20 °C (68 °F): 11

Change in condition

| | |
|-------------------------------------|-----------------|
| Melting point/Melting range: | 0 °C (32 °F) |
| Boiling point/Boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable. |

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

Ignition temperature: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

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

Density at 20 °C (68 °F): 1.00304 g/cm³ (8.37037 lbs/gal)

Relative density Not determined.

Vapor density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

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

Viscosity:

Dynamic at 20 °C (68 °F): 0.0952 mPas

Kinematic: Not determined.

Solvent separation test

Water: 98.2 %

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 4)

| | |
|--------------------------|--|
| VOC content: | 0.00 % |
| Solids content: | 1.8 % |
| 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 that are relevant for classification: No data available

Primary irritant effect:

on the skin: Causes skin irritation.

on the eye: Irritating effect.

Sensitization:

In case of skin contact: not sensitising

In case of inhalation: not sensitising

Additional toxicological information:

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

OECD test guideline 471, Ames test.

Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

Toxicity

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability

Not available

No further relevant information available.

Bioaccumulative potential

Not known

No further relevant information available.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 5)

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

14 Transport information

UN-Number Not hazardous for transportation**DOT, ADR, ADN, IMDG, IATA** Not applicable**UN proper shipping name** None**DOT, ADR, ADN, IMDG, IATA** Not applicable**Transport hazard class(es)** None**DOT, ADR, ADN, IMDG, IATA****Class** Not applicable**Packing group** None**DOT, 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 73/78 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**Sara****Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 6)

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients are listed.

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

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

1310-73-2 sodium hydroxide

Pennsylvania Right-to-Know List:

1310-73-2 sodium hydroxide

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

None of the ingredients are listed.

TLV (Threshold Limit Value)

None of the ingredients are listed.

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

None of the ingredients are listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).**Signal word** Warning**Hazard statements**

Causes serious eye irritation.

Precautionary statements

Wash thoroughly after handling.

Wear eye protection / face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Chemical safety assessment**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

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

Department issuing SDS:

Promega Corporation

Chemical Regulatory Department

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Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Cell Lysis Solution (CLA)

(Contd. of page 7)

2800 Woods Hollow Road
Madison, WI
Ph: (608) 274-4330
chemicalregulatory@promega.com

Contact:**Date of preparation / last revision 12/31/2023****Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

US



Safety Data Sheet acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

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 mixture For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com**Emergency telephone number:**

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

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture

The substance is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements**GHS label elements** Not applicable**Hazard pictograms** Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Nuclease-Free Water

vPvB: Not applicable.

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3 Composition/information on ingredients

Chemical characterization: Substances

CAS No. Description

7732-18-5 water

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

Special hazards arising from the substance or mixture

None known

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.

US
(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Nuclease-Free Water

(Contd. of page 2)

7 Handling and storage

Handling:

Precautions for safe handling No special measures required.

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

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light.

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

Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

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

Material of gloves

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

| | |
|------------------------|-----------------|
| Form: | Fluid |
| Color: | Colorless |
| Odor: | Odorless |
| Odor threshold: | Not determined. |

Change in condition

| | |
|-------------------------------------|-----------------|
| Melting point/Melting range: | 0 °C (32 °F) |
| Boiling point/Boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable. |

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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Nuclease-Free Water

(Contd. of page 3)

| | |
|---|---|
| Ignition temperature: | Not determined. |
| Danger of explosion: | Product does not present an explosion hazard. |
| Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| Vapor pressure: | Not determined. |
| Density at 20 °C (68 °F): | 1 g/cm ³ (8.345 lbs/gal) |
| Relative density | Not determined. |
| Vapor density | Not determined. |
| Evaporation rate | Not determined. |
| Solubility in / Miscibility with | |
| Water: | Fully miscible. |
| Partition coefficient (n-octanol/water): | Not determined. |
| Viscosity: | |
| Dynamic at 20 °C (68 °F): | 0.0952 mPas |
| Kinematic: | Not determined. |
| Water: | 100.0 % |
| VOC content: | 0.00 % |
| 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 that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitization:

In case of skin contact: not sensitising

In case of inhalation: not sensitising

Additional toxicological information: The substance is not subject to classification.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

Substance is not listed.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Nuclease-Free Water

(Contd. of page 4)

NTP (National Toxicology Program)

Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

Toxicity**Aquatic toxicity:** Not harmful to the aquatic environment**Persistence and degradability**

Not available

No further relevant information available.

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 available.

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

14 Transport information

UN-Number

Not hazardous for transportation

DOT, ADR, ADN, IMDG, IATA

Not applicable

UN proper shipping name

None

DOT, ADR, IMDG, IATA

Not applicable

ADN**Transport hazard class(es)**

None

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Nuclease-Free Water

(Contd. of page 5)

DOT, ADR, ADN, IMDG, IATA
Class

Not applicable

Packing group
DOT, 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 73/78 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
Sara

Section 355 (extremely hazardous substances):

Substance is not listed.

Section 313 (Specific toxic chemical listings):

Substance is not listed.

TSCA (Toxic Substances Control Act) Inventory:

ACTIVE

Hazardous Air Pollutants

Substance is not listed.

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

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

Chemicals known to cause developmental toxicity:

Substance is not listed.

New Jersey Right-to-Know List:

Substance is not listed.

Pennsylvania Right-to-Know List:

Substance is not listed.

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

Substance is not listed.

TLV (Threshold Limit Value)

Substance is not listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 12/28/2023

Trade name: Nuclease-Free Water

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

Substance is not listed.

GHS label elements Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**Chemical safety assessment****Water hazard class:** Generally not hazardous for water.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

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

Department issuing SDS:

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

chemicalregulatory@promega.com

Contact:**Date of preparation / last revision** 12/31/2023**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

1 Identification**Product identifier****Trade name:** Neutralization Solution (NSB)**Article number:** A148**Application of the substance / the mixture** For Laboratory Use**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com**Emergency telephone number:**

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

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

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

GHS07

Acute Toxicity - Oral 4 H302 Harmful if swallowed.

Acute Toxicity - Inhalation 4 H332 Harmful if inhaled.

Skin Irritation 2 H315 Causes skin irritation.

Eye Irritation 2A H319 Causes serious eye irritation.

Label elements**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms**

GHS07

Signal word Warning**Hazard-determining components of labeling:**

guanidinium chloride

Hazard statements

Harmful if swallowed or if inhaled.

Causes skin irritation.

Causes serious eye irritation.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 1)

Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

Wear eye protection / face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

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

Health = 2

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Irritant**Primary route(s) of entry:**

Dermal

Inhalation

Oral

Target Organ(s):

May affect Nervous system (Neurotoxin)

May affect Bones

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

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:**

The product is made up of a mixture of hazardous and non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:

| | | |
|---------|----------------------|--------|
| 50-01-1 | guanidinium chloride | 25-50% |
| 64-19-7 | acetic acid | 1-5% |

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

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 2)

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.

After inhalation:

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

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

Seek medical treatment in case of complaints.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

None known

No further relevant information available.

Advice for firefighters No special advice.

Protective equipment: Mouth respiratory protective device.

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.

US
(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 3)

7 Handling and storage

Handling:

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light.

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

Further information about storage conditions: Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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.

64-19-7 acetic acid

PEL Long-term value: 25 mg/m³, 10 ppm

REL Short-term value: 37 mg/m³, 15 ppm

Long-term value: 25 mg/m³, 10 ppm

TLV Short-term value: 15 ppm

Long-term value: 10 ppm

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Breathing equipment:

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

Protection of hands: Not required.

Material of gloves

Chemical: Acetic acid, CAS number 64-19-7

Glove Material: Butyl rubber

Glove Thickness: > or = 0.3 mm

Breakthrough Time: Approx. 480 min.

Gloves impermeable to the specific chemical substance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 4)

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 NIOSH standards.

9 Physical and chemical properties

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

| | |
|------------------------|-----------------|
| Form: | Fluid |
| Color: | Colorless |
| Odor: | Not determined |
| Odor threshold: | Not determined. |

pH-value at 20 °C (68 °F): 4.2

Change in condition

| | |
|-------------------------------------|-----------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 100 °C (212 °F) |
| Flash point: | Not applicable. |

Flammability (solid, gaseous): Not applicable.

Auto igniting: 485 °C (905 °F)

Decomposition temperature: Not determined.

Ignition temperature: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

| | |
|------------------------|-----------------|
| Lower: | 4 Vol % |
| Upper: | 17 Vol % |
| Vapor pressure: | Not determined. |

Density at 20 °C (68 °F): 1.10351 g/cm³ (9.20879 lbs/gal)

Relative density: Not determined.

Vapor density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with

| | |
|---|-----------------|
| Water: | Fully miscible. |
| Partition coefficient (n-octanol/water): | Not determined. |
| Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |

Solvent separation test

| | |
|--------------------------|--------|
| Organic solvents: | 1.0 % |
| Water: | 52.5 % |
| VOC content: | 1.00 % |
| Solids content: | 46.5 % |

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 5)

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** Reacts with strong acids and oxidizing agents.**Conditions to avoid** No further relevant information available.**Incompatible materials:** Oxidizing agents**Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects**Acute toxicity:****LD/LC50 values that are relevant for classification:****50-01-1 guanidinium chloride**

| | | |
|--------------------|-------|-------------------|
| Oral | LD50 | 475 mg/kg (Rat) |
| Irritation of eyes | acute | 500 mg (Rabbit) |
| | | Severe Irritation |

Primary irritant effect:**on the skin:** Causes skin irritation.**on the eye:** Irritating effect.**Sensitization:**

In case of skin contact: not sensitising

In case of inhalation: not sensitising

Additional toxicological information:

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

OECD test guideline 471, Ames test.

Harmful

Irritant

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

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

Toxicity**Aquatic toxicity:** Not harmful to the aquatic environment

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 6)

Persistence and degradability

Not available

No further relevant information available.

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

14 Transport information

UN-Number Not hazardous for transportation**DOT, ADR, IMDG, IATA** Not applicable**UN proper shipping name** None**DOT, ADR, ADN, IMDG, IATA** Not applicable**Transport hazard class(es)** None**DOT, ADR, ADN, IMDG, IATA****Class** Not applicable**Packing group** None**DOT, 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 73/78 and the IBC Code** Not applicable.**UN "Model Regulation":** Not applicable
 US
 (Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

(Contd. of page 7)

15 Regulatory information

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

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

64-19-7 acetic acid

Pennsylvania Right-to-Know List:

64-19-7 acetic acid

Carcinogen categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value)

None of the ingredients are listed.

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

None of the ingredients are listed.

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

Signal word Warning

Hazard-determining components of labeling:

guanidinium chloride

Hazard statements

Harmful if swallowed or if inhaled.

Causes skin irritation.

Causes serious eye irritation.

Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

Wear eye protection / face protection.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 12/31/2023

Reviewed on 12/28/2023

Trade name: Neutralization Solution (NSB)

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*If swallowed: Call a poison center/doctor if you feel unwell.**If on skin: Wash with plenty of water.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Rinse mouth.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Chemical safety assessment****Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

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

Department issuing SDS:

Promega Corporation

Chemical Regulatory Department

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Contact:**Date of preparation / last revision** 12/31/2023**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A