

Product code	Description
<b>AS1470</b>	<b>Maxwell® 16 miRNA Kit</b>

## Components:

K406	100% Isopropanol
MC134	DNase Buffer
MC108	Isopropanol Solution
K300	Ethanol Solution
MC302	Maxwell® C Resin
MC146	Wash Solution A
A208B	1-Thioglycerol, 900ul
C888A	Blue Dye
MC501C	Lysis Buffer
P119C	Nuclease-Free Water
Z305H	Homogenization Solution, 30mL
MC500C	Proteinase K (PK) Solution
MC145A	Lytic Enhancer
Z358A	DNase I (lyophilized) Add 275µl of Nuclease-Free Water



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**1 Identification**

**Product identifier**

**Trade name:** 100% Isopropanol

**Article number:** K406

**CAS Number:**

67-63-0

**EC number:**

200-661-7

**Index number:**

603-117-00-0

**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](mailto:ChemicalRegulatory@promega.com)

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

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

**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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

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**Trade name: 100% Isopropanol**

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**Label elements****GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms**

GHS02 GHS07

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

2-Propanol

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

Health = 1

Fire = 3

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 1

Fire = 3

Reactivity = 0

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

Irritant

Flammable

**Primary route(s) of entry:**

Dermal

Inhalation

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**Target Organ(s):***May affect Nervous system (Neurotoxin)**May cause Kidney damage (Nephrotoxin)***Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances****CAS No. Description**

67-63-0 2-Propanol

**Identification number(s)****EC number:** 200-661-7**Index number:** 603-117-00-0

### 4 First-aid measures

**Description of first aid measures****General information:***Take affected persons out into the fresh air.**Take affected persons out of danger area and lay down.***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.**Take affected persons into fresh air and keep quiet.***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**

Headache

Dizziness

Nausea

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

### 5 Fire-fighting measures

**Extinguishing media****Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.***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: 100% Isopropanol

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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.

Keep away from ignition sources

Wear protective clothing.

### Environmental precautions:

Prevent seepage into sewage system, workpits and cellars.

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).

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

Ensure good ventilation/exhaustion at the workplace.

Use only in well ventilated areas.

#### Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

#### Conditions for safe storage, including any incompatibilities

##### Storage:

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

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

#### Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**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:

##### 67-63-0 2-Propanol

PEL Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

REL Short-term value: 1225 mg/m<sup>3</sup>, 500 ppm

Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

TLV Short-term value: 984 mg/m<sup>3</sup>, 400 ppm

Long-term value: 492 mg/m<sup>3</sup>, 200 ppm

BEI

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Trade name: 100% Isopropanol

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**Ingredients with biological limit values:****67-63-0 2-Propanol**

<b>BEI</b>	40 mg/L
	Medium: urine
	Time: end of shift at end of workweek
	Parameter: Acetone (background, nonspecific)

**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:**

Protective gloves

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**

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

**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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Alcohol-like
<b>Odor threshold:</b>	Not determined.

**Change in condition**

**Melting point/Melting range:** -89.5 °C (-129.1 °F)

**Boiling point/Boiling range:** 82 °C (179.6 °F)

**Flash point:** 13 °C (55.4 °F)

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:** 425 °C (797 °F)

**Decomposition temperature:** Not determined.

**Auto igniting:** Not determined.

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Trade name: 100% Isopropanol

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<b>Danger of explosion:</b>	Product does not present an explosion hazard. Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	2 Vol %
<b>Upper:</b>	12 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	43 hPa (32.3 mm Hg)
<b>Density at 20 °C (68 °F):</b>	0.785 g/cm <sup>3</sup> (6.55083 lbs/gal)
<b>Relative density at 20 °C (68 °F)</b>	0.785 g/cm <sup>3</sup>
<b>Vapor density at 20 °C (68 °F)</b>	2.1 g/cm <sup>3</sup> (17.5245 lbs/gal)
<b>Evaporation rate at 20 °C (68 °F)</b>	1.7
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic at 20 °C (68 °F):</b>	2.43 mPas
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	100.0 %
<b>VOC content:</b>	100.00 %
<b>Solids content:</b>	0.0 %
<b>Other information</b>	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:** 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:**

**67-63-0 2-Propanol**

Oral	LD50	4,570 mg/kg (Rat)
Dermal	LD50	13,400 mg/kg (Rat)
Inhalative	LC50/4 h	30 mg/l (Rat)

**Primary irritant effect:**

**on the skin:** No data available.

**on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

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

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Trade name: 100% Isopropanol

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

3

**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 available

No further relevant information available.

**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****DOT, ADR, IMDG, IATA**

UN1219

**UN proper shipping name****DOT**

Isopropanol

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Trade name: 100% Isopropanol

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**ADR**  
**IMDG, IATA**

1219 ISOPROPANOL (ISOPROPYL ALCOHOL)  
ISOPROPANOL (ISOPROPYL ALCOHOL)

**Transport hazard class(es)**

**DOT**



**Class**  
**Label**

3 Flammable liquids  
3

**ADR**



**Class**  
**Label**

3 (F1) Flammable liquids  
3

**IMDG, IATA**



**Class**  
**Label**

3 Flammable liquids  
3

**Packing group**

**DOT, ADR, IMDG, IATA**

II

**Environmental hazards:**

**Marine pollutant:**

No

**Special precautions for user**

Warning: Flammable liquids

**Hazard identification number (Kemler code):** 33

**EMS Number:**

3-06

**Stowage Category**

B

**Transport in bulk according to Annex II of  
MARPOL 73/78 and the IBC Code**

Not applicable.

**Transport/Additional information:**

**ADR**

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**IMDG**

**Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

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Trade name: 100% Isopropanol

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UN "Model Regulation":

UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

## 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 listed.

**TSCA (Toxic Substances Control Act) Inventory:**

Substance is listed.

**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.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

Substance is not listed.

**TLV (Threshold Limit Value established by ACGIH)**

A4

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

Substance is not listed.

**GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Signal word** Danger

**Hazard-determining components of labeling:**

2-Propanol

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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**Trade name: 100% Isopropanol**

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*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.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*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.*

*Call a poison center/doctor if you feel unwell.*

*If eye irritation persists: Get medical advice/attention.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

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

*Store in a well-ventilated place. Keep cool.*

*Store locked up.*

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

**Water hazard class:** *Water hazard class 1 (Assessment by list): 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*

*2800 Woods Hollow Road*

*Madison, WI*

*Ph: (608)274-4330*

**Date of preparation / last revision** *09/11/2020 / 3.0*

### **Abbreviations and acronyms:**

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

*ICAO: International Civil Aviation Organization*

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

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*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*

*BEI: Biological Exposure Limit*

*Flam. Liq. 2: Flammable liquids – Category 2*

*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 09/11/2020

Reviewed on 09/11/2020

**1 Identification****Product identifier****Trade name:** DNase Buffer**Article number:** MC134**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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 = 1

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 1

Reactivity = 0

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

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**Trade name: DNase Buffer**

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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 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

50-75%

**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:**CO<sub>2</sub>, 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.

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).

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**Trade name: DNase Buffer**

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### Reference to other sections

No dangerous substances are released.  
See Section 7 for information on safe handling.  
See Section 13 for disposal information.

## 7 Handling and storage

### Handling:

**Precautions for safe handling** No special measures required.  
**Information about protection against explosions and fires:** No special measures required.

### Conditions for safe storage, including any incompatibilities

**Storage:**  
**Requirements to be met by storerooms and receptacles:** No special requirements.  
**Information about storage in one common storage facility:** Not required.  
**Further information about storage conditions:** 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:

57-55-6 Propylene glycol

WEEL Long-term value: 10 mg/m<sup>3</sup>

**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:** Not required.

#### Material of gloves

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

**Eye protection:** Not required.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

<b>pH-value at 20 °C (68 °F):</b>	8.5
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Trade name: DNase Buffer

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**Change in condition**

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

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:** 371 °C (699.8 °F)  
**Decomposition temperature:** Not determined.

**Auto igniting:** 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):** 1.01556 g/cm<sup>3</sup> (8.47485 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not determined.

**Evaporation rate** Not determined.

**Solubility in / Miscibility with**

**Water:** Fully miscible.

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

**Viscosity:**

**Dynamic:** Not determined.

**Kinematic:** Not determined.

**Organic solvents:** 55.0 %

**Water:** 44.4 %

**VOC content:** 55.00 %

**Solids content:** 0.6 %

**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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Reviewed on 09/11/2020

**Trade name: DNase Buffer**

(Contd. of page 4)

**Sensitization:** No sensitizing effects known.

**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 available

No further relevant information available.

**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 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

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# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 09/11/2020

Trade name: DNase Buffer

(Contd. of page 5)

<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable
----------------------------------	----------------

<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable

<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA Class</b>	Not applicable

<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable

<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No

<b>Special precautions for user</b>	Not applicable.
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<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
---	-----------------

<b>UN "Model Regulation":</b>	Not applicable
-------------------------------	----------------

## 15 Regulatory information

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

<b>Section 355 (extremely hazardous substances):</b>
--

None of the ingredients are listed.
-------------------------------------

<b>Section 313 (Specific toxic chemical listings):</b>
--

None of the ingredients are listed.
-------------------------------------

<b>TSCA (Toxic Substances Control Act) Inventory:</b>
---

All ingredients are listed.
-----------------------------

<b>Hazardous Air Pollutants</b>
---------------------------------

None of the ingredients are listed.
-------------------------------------

**Proposition 65**

<b>Chemicals known to cause cancer:</b>
---

None of the ingredients are listed.
-------------------------------------

<b>Chemicals known to cause reproductive toxicity for females:</b>
--

None of the ingredients are listed.
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<b>Chemicals known to cause reproductive toxicity for males:</b>
--

None of the ingredients are listed.
-------------------------------------

<b>Chemicals known to cause developmental toxicity:</b>
---

None of the ingredients are listed.
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**Cancerogenity categories**

<b>EPA (Environmental Protection Agency)</b>
--

None of the ingredients are listed.
-------------------------------------

<b>TLV (Threshold Limit Value established by ACGIH)</b>
---

None of the ingredients are listed.
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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: DNase Buffer**

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**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

**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

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 1.0

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**1 Identification**

**Product identifier**

**Trade name:** Isopropanol Solution

**Article number:** MC108

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

**Label elements**

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

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 1)

**Hazard pictograms**

GHS02 GHS07

**Signal word** *Danger***Hazard-determining components of labeling:***2-Propanol***Hazard statements***Highly flammable liquid and vapor.**Causes serious eye irritation.**May cause drowsiness or dizziness.***Precautionary statements***Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**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.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**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.**Call a poison center/doctor if you feel unwell.**If eye irritation persists: Get medical advice/attention.**In case of fire: Use for extinction: CO2, powder or water spray.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Classification system:****NFPA ratings (scale 0 - 4)***Health = 1**Fire = 3**Reactivity = 0***HMIS-ratings (scale 0 - 4)***Health = 1**Fire = 3**Reactivity = 0***OSHA Hazard Overview (Criteria according to 29CFR1910.1200):***Irritant**Flammable***Primary route(s) of entry:***Dermal**Inhalation***Target Organ(s):***May affect Nervous system (Neurotoxin)**May cause Kidney damage (Nephrotoxin)*

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 2)

**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 non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

**Dangerous components:**

67-63-0	2-Propanol	50-75%
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**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:**

Take affected persons out into the fresh air.

Take affected persons out of danger area and lay down.

**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.

Take affected persons into fresh air and keep quiet.

**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**

Headache

Dizziness

Nausea

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### \* 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

**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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 3)

## 6 Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources

Wear protective clothing.

### **Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.

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).

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**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Use only in well ventilated areas.

#### **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

#### **Conditions for safe storage, including any incompatibilities**

##### **Storage:**

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

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

##### **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**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:**

##### **67-63-0 2-Propanol**

PEL Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

REL Short-term value: 1225 mg/m<sup>3</sup>, 500 ppm

Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

TLV Short-term value: 984 mg/m<sup>3</sup>, 400 ppm

Long-term value: 492 mg/m<sup>3</sup>, 200 ppm

BEI

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: **Isopropanol Solution**

(Contd. of page 4)

**Ingredients with biological limit values:****67-63-0 2-Propanol**

<b>BEI</b>	40 mg/L
	Medium: urine
	Time: end of shift at end of workweek
	Parameter: Acetone (background, nonspecific)

**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:**

Protective gloves  
 Select the glove material considering penetration time, rate of diffusion and degradation time.  
 It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**

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

**Eye protection:**

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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Alcohol-like
<b>Odor threshold:</b>	Not determined.

**Change in condition**

<b>Melting point/Melting range:</b>	-89 °C (-128.2 °F)
<b>Boiling point/Boiling range:</b>	81-83 °C (177.8-181.4 °F)
<b>Flash point:</b>	< 23 °C (< 73.4 °F)

<b>Flammability (solid, gaseous):</b>	Not applicable.
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<b>Ignition temperature:</b>	425 °C (797 °F)
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<b>Decomposition temperature:</b>	Not determined.
-----------------------------------	-----------------

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Isopropanol Solution

(Contd. of page 5)

<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard. Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	2 Vol %
<b>Upper:</b>	12 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	43 hPa (32.3 mm Hg)
<b>Density at 20 °C (68 °F):</b>	0.8495 g/cm <sup>3</sup> (7.08908 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic at 20 °C (68 °F):</b>	2.27 mPas
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	70.0 %
<b>Water:</b>	30.0 %
<b>VOC content:</b>	70.00 %
<b>Solids content:</b>	0.0 %
<b>Other information</b>	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:** 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:**

**67-63-0 2-Propanol**

Oral	LD50	4,570 mg/kg (Rat)
Dermal	LD50	13,400 mg/kg (Rat)
Inhalative	LC50/4 h	30 mg/l (Rat)

**Primary irritant effect:**

**on the skin:** No data available.

**on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

(Contd. on page 7)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 6)

**Additional toxicological information:**

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

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

67-63-0 2-Propanol

3

**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 available

No further relevant information available.

**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.

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Isopropanol Solution

(Contd. of page 7)

## 14 Transport information

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

UN1219

**UN proper shipping name****DOT**

Isopropanol

**ADR**

1219 ISOPROPANOL (ISOPROPYL ALCOHOL)

**IMDG, IATA**

ISOPROPANOL (ISOPROPYL ALCOHOL)

**Transport hazard class(es)****DOT****Class**

3 Flammable liquids

**Label**

3

**ADR****Class**

3 (F1) Flammable liquids

**Label**

3

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

3 Flammable liquids

**Label**

3

**Packing group****DOT, ADR, IMDG, IATA**

II

**Environmental hazards:****Marine pollutant:**

No

**Special precautions for user**

Warning: Flammable liquids

**Hazard identification number (Kemler code):** 33**EMS Number:**

F-E,S-D

**Stowage Category**

B

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

**Transport/Additional information:****ADR****Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 8)

**IMDG****Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

## 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):**

67-63-0 | 2-Propanol

**TSCA (Toxic Substances Control Act) Inventory:**

All ingredients are listed.

**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.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

67-63-0 | 2-Propanol

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:**

2-Propanol

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

(Contd. on page 10)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 9)

### Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 Ground/bond container and receiving equipment.  
 Use explosion-proof electrical/ventilating/lighting/equipment.  
 Use only non-sparking tools.  
 Take precautionary measures against static discharge.  
 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.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 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.  
 Call a poison center/doctor if you feel unwell.  
 If eye irritation persists: Get medical advice/attention.  
 In case of fire: Use for extinction: CO2, powder or water spray.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

## 16 Other information

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

### Department issuing SDS:

Promega Corporation  
 Chemical Regulatory Department  
 2800 Woods Hollow Road  
 Madison, WI  
 Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 2.0

### Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organization  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 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

(Contd. on page 11)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Isopropanol Solution**

(Contd. of page 10)

*TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**BEI: Biological Exposure Limit**Flam. Liq. 2: Flammable liquids – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3***\* Data compared to the previous version altered.**

US

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 09/11/2020

Reviewed on 09/08/2020

**1 Identification****Product identifier****Trade name:** Ethanol Solution**Article number:** K300**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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**

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

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

GHS02

**Signal word** Danger**Hazard statements**

Highly flammable liquid and vapor.

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Ethanol Solution**

(Contd. of page 1)

### Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store in a well-ventilated place. Keep cool.

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

### Classification system:

#### NFPA ratings (scale 0 - 4)

Health = 0

Fire = 3

Reactivity = 0

#### HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 3

Reactivity = 0

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

**Primary route(s) of entry:** Inhalation

#### Target Organ(s):

May cause Liver damage (Hepatotoxin)

May affect Nervous system (Neurotoxin)

#### 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 non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

#### Dangerous components:

64-17-5	ethanol	75-100%
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**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.

**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**

Headache

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Ethanol Solution**

(Contd. of page 2)

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

## \* 5 Fire-fighting measures

**Extinguishing media****Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.***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.*

## \* 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures***Remove persons from danger area.**Wear protective equipment. Keep unprotected persons away.**Keep away from ignition sources**Wear protective clothing.***Environmental precautions:***Prevent seepage into sewage system, workpits and cellars.**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).**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***Ensure good ventilation/exhaustion at the workplace.**Prevent formation of aerosols.**Use only in well ventilated areas.***Information about protection against explosions and fires:***Keep ignition sources away - Do not smoke.**Protect against electrostatic charges.***Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *Store in a cool location.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:***Keep receptacle tightly sealed.**Store in cool, dry conditions in well sealed receptacles.*

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# Safety Data Sheet

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Trade name: Ethanol Solution

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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:

##### 64-17-5 ethanol

PEL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV	Short-term value: 1880 mg/m <sup>3</sup> , 1000 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:

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

#### Breathing equipment:

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

#### Protection of hands:

Protective gloves

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Material of gloves

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

#### Eye protection:

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:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Alcohol-like
<b>Odor threshold:</b>	Not determined.

##### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	78 °C (172.4 °F)
<b>Flash point:</b>	< 23 °C (< 73.4 °F)

<b>Flammability (solid, gaseous):</b>	Not applicable.
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<b>Ignition temperature:</b>	425 °C (797 °F)
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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Ethanol Solution

(Contd. of page 4)

<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard. Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	3.5 Vol %
<b>Upper:</b>	15 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	59 hPa (44.3 mm Hg)
<b>Density at 20 °C (68 °F):</b>	0.832 g/cm <sup>3</sup> (6.94304 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	80.0 %
<b>Water:</b>	20.0 %
<b>VOC content:</b>	80.00 %
<b>Solids content:</b>	0.0 %
<b>Other information</b>	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:** 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:** No data available

**Primary irritant effect:**

**on the skin:** No data available.

**on the eye:** No data available.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

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

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Ethanol Solution**

(Contd. of page 5)

### Carcinogenic categories

#### IARC (International Agency for Research on Cancer)

64-17-5 ethanol	I
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#### 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 available

No further relevant information available.

#### 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

DOT, ADR, IMDG, IATA	UN1170
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#### UN proper shipping name

DOT	Ethanol
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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Ethanol Solution

(Contd. of page 6)

<b>ADR</b>	1170 ETHANOL (ETHYL ALCOHOL)
<b>IMDG</b>	ETHANOL (ETHYL ALCOHOL)
<b>IATA</b>	ETHANOL

**Transport hazard class(es)****DOT**

<b>Class</b>	3 Flammable liquids
<b>Label</b>	3

**ADR**

<b>Class</b>	3 (F1) Flammable liquids
<b>Label</b>	3

**IMDG, IATA**

<b>Class</b>	3 Flammable liquids
<b>Label</b>	3

**Packing group****DOT, ADR, IMDG, IATA** II**Environmental hazards:****Marine pollutant:** No**Special precautions for user** Warning: Flammable liquids**Hazard identification number (Kemler code):** 33**EMS Number:** F-E,S-D**Stowage Category** A**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.**Transport/Additional information:****ADR**

<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
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**IMDG**

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

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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Ethanol Solution

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UN "Model Regulation":

UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

## 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 ingredients are listed.

**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:**

64-17-5 ethanol

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

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

64-17-5 ethanol

A3

**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 statements**

Highly flammable liquid and vapor.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

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# Safety Data Sheet

## acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Ethanol Solution**

(Contd. of page 8)

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

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

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

### 16 Other information

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

**Department issuing SDS:**

Promega Corporation  
 Chemical Regulatory Department  
 2800 Woods Hollow Road  
 Madison, WI  
 Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 2.0

**Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organization

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

Flam. Liq. 2: Flammable liquids – Category 2

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

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 09/11/2020

Reviewed on 09/08/2020

**1 Identification**

**Product identifier**

**Trade name:** Maxwell® C Resin

**Article number:** MC302

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Maxwell® C Resin**

(Contd. of page 1)

**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 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:**CO<sub>2</sub>, 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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Maxwell® C Resin**

(Contd. of page 2)

See Section 13 for disposal information.

## 7 Handling and storage

### Handling:

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

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

**Conditions for safe storage, including any incompatibilities**

### Storage:

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

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

**Further information about storage conditions:** None.

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

## 8 Exposure controls/personal protection

### Control parameters

**Components with limit values that require monitoring at the workplace:**

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

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

### Exposure controls

**Personal protective equipment:**

**General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

**Breathing equipment:** Not required.

**Protection of hands:** Not required.

### Material of gloves

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

**Eye protection:** Not required.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 7

#### Change in condition

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

**Flammability (solid, gaseous):** Not applicable.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Maxwell® C Resin

(Contd. of page 3)

<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density at 20 °C (68 °F):</b>	1.01507 g/cm <sup>3</sup> (8.47076 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic at 20 °C (68 °F):</b>	0.0952 mPas
<b>Kinematic:</b>	Not determined.
<b>Water:</b>	99.0 %
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	0.5 %
<b>Other information</b>	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:** No sensitizing effects known.

#### 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.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Maxwell® C Resin**

(Contd. of page 4)

**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 available

No further relevant information available.

**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, ADN, IMDG, IATA**

Not applicable

**Transport hazard class(es)**

None

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Maxwell® C Resin

(Contd. of page 5)

**DOT, ADR, ADN, IMDG, IATA**

<b>Class</b>	Not applicable
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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 ingredients are listed.

**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.

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

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

26628-22-8 | sodium azide

A4: Not classifiable as human carcinogen

**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

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Maxwell® C Resin**

(Contd. of page 6)

**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

**Date of preparation / last revision** 09/11/2020 / 1.0

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**1 Identification**

**Product identifier**

**Trade name:** Wash Solution A

**Article number:** MC146

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

**Label elements**

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

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 1)

**Hazard pictograms**

GHS02 GHS07

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

2-Propanol

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

Health = 2

Fire = 3

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 2

Fire = 3

Reactivity = 0

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

Irritant

Flammable

**Primary route(s) of entry:**

Dermal

Inhalation

**Target Organ(s):**

May affect Nervous system (Neurotoxin)

May cause Kidney damage (Nephrotoxin)

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 2)

**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 non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

**Dangerous components:**

67-63-0	2-Propanol	50-75%
57-55-6	Propylene glycol	15-20%

### 4 First-aid measures

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

Take affected persons out into the fresh air.

Take affected persons out of danger area and lay down.

**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.

Take affected persons into fresh air and keep quiet.

**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**

Headache

Dizziness

Nausea

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

**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.

US  
(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 3)

## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources

Wear protective clothing.

### Environmental precautions:

Prevent seepage into sewage system, workpits and cellars.

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).

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

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Use only in well ventilated areas.

#### Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

#### Conditions for safe storage, including any incompatibilities

##### Storage:

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

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

##### Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**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:

##### 67-63-0 2-Propanol

PEL	Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
REL	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
TLV	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm
BEI	

(Contd. on page 5)

US

# Safety Data Sheet

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Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 4)

**57-55-6 Propylene glycol**WEEL Long-term value: 10 mg/m<sup>3</sup>**Ingredients with biological limit values:****67-63-0 2-Propanol**

BEI 40 mg/L

Medium: urine

Time: end of shift at end of workweek

Parameter: Acetone (background, nonspecific)

**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:**

Protective gloves

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**

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

**Eye protection:**

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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 3-10**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	82 °C (179.6 °F)
<b>Flash point:</b>	< 23 °C (< 73.4 °F)

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 5)

<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	371 °C (699.8 °F)
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard. Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	2 Vol %
<b>Upper:</b>	12.6 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	43 hPa (32.3 mm Hg)
<b>Density at 20 °C (68 °F):</b>	0.87 g/cm <sup>3</sup> (7.26015 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	86.5 %
<b>Water:</b>	13.0 %
<b>VOC content:</b>	86.50 %
<b>Solids content:</b>	0.5 %
<b>Other information</b>	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:** 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:**

**67-63-0 2-Propanol**

Oral	LD50	4,570 mg/kg (Rat)
Dermal	LD50	13,400 mg/kg (Rat)
Inhalative	LC50/4 h	30 mg/l (Rat)

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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 6)

**Primary irritant effect:***on the skin:* No data available.*on the eye:* Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant**Carcinogenic categories****IARC (International Agency for Research on Cancer)**

67-63-0 | 2-Propanol

3

**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 available

No further relevant information available.

**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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 7)

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

## 14 Transport information

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

UN1219

**UN proper shipping name****DOT**

Isopropanol

**ADR**

1219 ISOPROPANOL (ISOPROPYL ALCOHOL)

**IMDG, IATA**

ISOPROPANOL (ISOPROPYL ALCOHOL)

**Transport hazard class(es)****DOT****Class**

3 Flammable liquids

**Label**

3

**ADR****Class**

3 (F1) Flammable liquids

**Label**

3

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

3 Flammable liquids

**Label**

3

**Packing group****DOT, ADR, IMDG, IATA**

II

**Environmental hazards:**

Not applicable.

**Special precautions for user**

Warning: Flammable liquids

**Hazard identification number (Kemler code):** 33**EMS Number:**

F-E,S-D

**Stowage Category**

B

**Transport in bulk according to Annex II of****MARPOL73/78 and the IBC Code**

Not applicable.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Wash Solution A

(Contd. of page 8)

**Transport/Additional information:****ADR****Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**IMDG****Limited quantities (LQ)****Excepted quantities (EQ)**

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

## 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):**

67-63-0 | 2-Propanol

**TSCA (Toxic Substances Control Act) Inventory:**

All ingredients are listed.

**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.

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

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

67-63-0 | 2-Propanol

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

(Contd. on page 10)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Wash Solution A**

(Contd. of page 9)

**Hazard-determining components of labeling:**

2-Propanol

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

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

## 16 Other information

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

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 1.0

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name: Wash Solution A**

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*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**BEI: Biological Exposure Limit**Flam. Liq. 2: Flammable liquids – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3***\* Data compared to the previous version altered.**

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**1 Identification**

**Product identifier**

**Trade name:** 1-Thioglycerol, 900ul

**Article number:** A208B

**CAS Number:**

96-27-5

**EC number:**

202-495-0

**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](mailto:ChemicalRegulatory@promega.com)

Promega Corporation

2800 Woods Hollow Road

Madison, WI 53711

U.S.A.

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

**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**



GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: 1-Thioglycerol, 900ul**

(Contd. of page 1)

**Label elements****GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms**

GHS06 GHS07

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

3-mercaptopropane-1,2-diol

**Hazard statements**

Harmful if swallowed.

Toxic in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory 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 protective gloves/protective clothing/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 immediately all contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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 = 2

Fire = 1

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

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

Dermal

Inhalation

Oral

**Target Organ(s):** Not applicable or unknown

(Contd. on page 3)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: 1-Thioglycerol, 900ul**

(Contd. of page 2)

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

### 3 Composition/information on ingredients

**Chemical characterization: Substances****CAS No. Description**

96-27-5 3-mercaptopropane-1,2-diol

**Identification number(s)****EC number:** 202-495-0

### 4 First-aid measures

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

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

**After inhalation:**

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

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

Seek medical treatment in case of complaints.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

**After eye contact:**

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:**

CO<sub>2</sub>, 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

US

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: 1-Thioglycerol, 900ul

(Contd. of page 3)

## 6 Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Wear protective clothing.

### **Environmental precautions:**

Dilute with plenty of water.

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

### **Methods and material for containment and cleaning up:**

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

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

### **Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

## 7 Handling and storage

### **Handling:**

#### **Precautions for safe handling**

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about protection against explosions and fires:** No special measures required.

#### **Conditions for safe storage, including any incompatibilities**

### **Storage:**

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

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

**Further information about storage conditions:** Keep receptacle tightly sealed.

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

## 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:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

#### **Breathing equipment:**

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

#### **Protection of hands:**

Protective gloves

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: 1-Thioglycerol, 900ul**

(Contd. of page 4)

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**

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

**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:**

<b>Form:</b>	Viscous
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	118 °C (244.4 °F)
<b>Flash point:</b>	112 °C (233.6 °F)

<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.

<b>Auto igniting:</b>	Not determined.
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<b>Danger of explosion:</b>	Product does not present an explosion hazard.
-----------------------------	---

**Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.

<b>Density at 20 °C (68 °F):</b>	1.295 g/cm <sup>3</sup> (10.80678 lbs/gal)
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<b>Relative density</b>	Not determined.
-------------------------	-----------------

<b>Vapor density</b>	Not determined.
----------------------	-----------------

<b>Evaporation rate</b>	Not determined.
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**Solubility in / Miscibility with**

<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.

**Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>VOC content:</b>	0.00 %

<b>Solids content:</b>	0.0 %
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<b>Other information</b>	No further relevant information available.
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## 10 Stability and reactivity

**Reactivity** No further relevant information available.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: 1-Thioglycerol, 900ul

(Contd. of page 5)

**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:**

Oxidizing agents

Strong reducing 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:** No data available**Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:** The substance is not subject to classification.**Carcinogenic categories****IARC (International Agency for Research on Cancer)**

Substance is not listed.

**NTP (National Toxicology Program)**

Substance is not listed.

**OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

## 12 Ecological information

**Toxicity****Aquatic toxicity:**

Not available

No further relevant information available.

**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:**

Water hazard class 3 (Assessment by list): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

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

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: 1-Thioglycerol, 900ul

(Contd. of page 6)

Other adverse effects No further relevant information available.

## 13 Disposal considerations

**Waste treatment methods****Recommendation:**

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

**Uncleaned packagings:**

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

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

## 14 Transport information

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

UN2810

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

None

Toxic, liquids, organic, n.o.s. (3-mercaptopropane-1,2-diol)

2810 TOXIC LIQUID, ORGANIC, N.O.S. (3-mercaptopropane-1,2-diol)

TOXIC LIQUID, ORGANIC, N.O.S. (3-mercaptopropane-1,2-diol)

**Transport hazard class(es)****DOT**

None

**Class****Label**

6.1 Toxic substances

6.1

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

6.1 Toxic substances

6.1

**Packing group****DOT, ADR, IMDG, IATA**

None

III

**Environmental hazards:**

Not applicable.

**Special precautions for user****Stowage Category****Stowage Code**

Warning: Toxic substances

A

SW2 Clear of living quarters.

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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: 1-Thioglycerol, 900ul

(Contd. of page 7)

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**      *Not applicable.*

**Transport/Additional information:****ADR****Exempted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**IMDG****Limited quantities (LQ)**

5L

**Exempted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**UN "Model Regulation":**

UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (3-MERCAPTOPROPANE-1,2-DIOL), 6.1, III

## 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:**

Substance is listed.

**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.

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

Substance is not listed.

**TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

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

Substance is not listed.

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: 1-Thioglycerol, 900ul**

(Contd. of page 8)

**GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Signal word** Danger

**Hazard-determining components of labeling:**

3-mercaptopropane-1,2-diol

**Hazard statements**

Harmful if swallowed.

Toxic in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory 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 protective gloves/protective clothing/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 immediately all contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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.

**Water hazard class:** Water hazard class 3 (Assessment by list): extremely 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

**Date of preparation / last revision** 09/11/2020 / 2.0

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

(Contd. on page 10)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: 1-Thioglycerol, 900ul**

(Contd. of page 9)

*LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Acute Tox. 4: Acute toxicity – Category 4**Acute Tox. 3: Acute toxicity – Category 3**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3***\* Data compared to the previous version altered.**

US

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 09/11/2020

Reviewed on 09/09/2020

**1 Identification**

**Product identifier**

**Trade name:** Blue Dye

**Article number:** C888A

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Blue Dye**

(Contd. of page 1)

**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 non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

**Dangerous components:** Not applicable

### 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:**CO<sub>2</sub>, 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**

See Section 7 for information on safe handling.

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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: **Blue Dye**

(Contd. of page 2)

See Section 13 for disposal information.

## 7 Handling and storage

**Handling:****Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

**Control parameters****Components with limit values that require monitoring at the workplace:**

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

**Additional information:** The lists that were valid during the creation were used as basis.**Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

**Breathing equipment:** Not required.**Protection of hands:** Not required.**Material of gloves**

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

**Eye protection:** Not required.

## \* 9 Physical and chemical properties

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

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

**Change in condition**

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

<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: **Blue Dye**

(Contd. of page 3)

<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density at 20 °C (68 °F):</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic at 20 °C (68 °F):</b>	0.0952 mPas
<b>Kinematic:</b>	Not determined.
<b>Water:</b>	98.7 %
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	0.0 %
<b>Other information</b>	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:** No sensitizing effects known.

#### 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)

Brilliant blue FCF

3

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: **Blue Dye**

(Contd. of page 4)

**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 available

No further relevant information available.

**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, IMDG, IATA**

Not applicable

**UN proper shipping name**

None

**DOT, ADR, ADN, IMDG, IATA**

Not applicable

**Transport hazard class(es)**

None

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: Blue Dye

(Contd. of page 5)

**DOT, ADR, ADN, IMDG, IATA**

<b>Class</b>	Not applicable
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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 ingredients are listed.

**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.

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

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**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**Water hazard class:** Generally not hazardous for water.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Blue Dye**

(Contd. of page 6)

**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

**Date of preparation / last revision** 09/11/2020 / 1.0

### **Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*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*

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

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**1 Identification**

**Product identifier**

**Trade name:** Lysis Buffer

**Article number:** MC501C

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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

STOT SE 2 H371 May cause damage to organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

**Label elements**

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

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: **Lysis Buffer**

(Contd. of page 1)

**Hazard pictograms**

GHS07 GHS08

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

guanidinium chloride  
sodium dodecyl sulphate

**Hazard statements**

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause damage to organs.

**Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

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

Wear protective gloves / eye protection / face protection.

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

If on skin: Wash with plenty of water.

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: Call a poison center/doctor.

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.

Store locked up.

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

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

Health = 2

Fire = 1

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = \*2

Fire = 1

Reactivity = 0

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

Dermal

Oral

**Target Organ(s):**

May affect Nervous system (Neurotoxin)

May cause behavioral changes

May affect Bones

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

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: **Lysis Buffer**

vPvB: Not applicable.

(Contd. of page 2)

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:**

The product is made up of a mixture of 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	38.2%
57-13-6	urea	25-50%
151-21-3	sodium dodecyl sulphate	1-5%

### 4 First-aid measures

**Description of first aid measures**

**General information:**

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

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

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

**After eye contact:**

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

**After swallowing:** 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:**

CO<sub>2</sub>, 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

### \* 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Wear protective clothing.

(Contd. on page 4)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Lysis Buffer**

(Contd. of page 3)

**Environmental precautions:**

*Dilute with plenty of water.*

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

**Methods and material for containment and cleaning up:**

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

*Dispose contaminated material as waste according to Section 13.*

*Ensure adequate ventilation.*

**Reference to other sections**

*See Section 7 for information on safe handling.*

*See Section 13 for disposal information.*

## 7 Handling and storage

**Handling:****Precautions for safe handling**

*Keep receptacles tightly sealed.*

*Ensure good ventilation/exhaustion at the workplace.*

*Prevent formation of aerosols.*

**Information about protection against explosions and fires:** *No special measures required.*

**Conditions for safe storage, including any incompatibilities****Storage:**

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

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

**Further information about storage conditions:** *Keep receptacle tightly sealed.*

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

## 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 other constituents have no known exposure limits.*

**57-13-6 urea**

<i>WEEL</i>	<i>Long-term value: 10 mg/m<sup>3</sup></i>
-------------	---

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

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

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing.*

*Wash hands before breaks and at the end of work.*

*Avoid contact with the eyes and skin.*

*Do not eat or drink while working.*

*Clean skin thoroughly immediately after handling the product.*

**Breathing equipment:**

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

**Protection of hands:**

*Protective gloves*

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: Lysis Buffer

(Contd. of page 4)

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**

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

**Eye protection:**

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:**

<b>Form:</b>	Fluid
<b>Color:</b>	Not determined.
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 6.4

**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	> 100 °C (> 212 °F)

**Flammability (solid, gaseous):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto igniting:** Product is not selfigniting.

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

**Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.

**Density at 20 °C (68 °F):** 1.205 g/cm<sup>3</sup> (10.05573 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.

**Water:** 12.2 %

**VOC content:** 0.00 %

**Solids content:** 0.0 %

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: Lysis Buffer

(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:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

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

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 available

No further relevant information available.

**Persistence and degradability**

Not available

No further relevant information available.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: Lysis Buffer

(Contd. of page 6)

**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**

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable
<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Not applicable
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Not applicable

US

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: Lysis Buffer

(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 ingredients are listed.

**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.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

57-13-6 urea

II

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

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

None of the ingredients are listed.

**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

sodium dodecyl sulphate

**Hazard statements**

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause damage to organs.

**Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

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

Wear protective gloves / eye protection / face protection.

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

If on skin: Wash with plenty of water.

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

Continue rinsing.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Lysis Buffer**

(Contd. of page 8)

*IF exposed or concerned: Call a poison center/doctor.  
 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.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.*

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

## 16 Other information

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

### **Department issuing SDS:**

*Promega Corporation  
 Chemical Regulatory Department  
 2800 Woods Hollow Road  
 Madison, WI  
 Ph: (608)274-4330*

**Date of preparation / last revision** *09/11/2020 / 1.0*

### **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 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 Tox. 4: Acute toxicity – Category 4  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
 STOT SE 2: Specific target organ toxicity (single exposure) – Category 2*

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

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

\* **1 Identification**

**Product identifier**

**Trade name:** Nuclease-Free Water

**Article number:** P119C

**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](mailto:ChemicalRegulatory@promega.com)

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

**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

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Nuclease-Free Water**

(Contd. of page 1)

**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.

### \* 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS No. Description**

7732-18-5 water

**Identification number(s)**

**EC number:** 231-791-2

### \* 4 First-aid measures

**Description of first aid measures**

**General information:** No special measures required.

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

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

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

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

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed**

None

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### \* 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, 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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Nuclease-Free Water**

(Contd. of page 2)

See Section 13 for disposal information.

## 7 Handling and storage

### Handling:

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

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

**Conditions for safe storage, including any incompatibilities**

### Storage:

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

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

**Further information about storage conditions:** None.

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

## 8 Exposure controls/personal protection

### Control parameters

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

#### Material of gloves

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

**Eye protection:** Not required.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

#### Change in condition

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

**Flammability (solid, gaseous):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto igniting:** Not determined.

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

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: *Nuclease-Free Water*

(Contd. of page 3)

**Explosion limits:**

**Lower:** Not determined.  
**Upper:** Not determined.  
**Vapor pressure:** Not determined.

**Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (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:** No sensitizing effects known.

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

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

Substance is not listed.

**NTP (National Toxicology Program)**

Substance is not listed.

**OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

US

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Nuclease-Free Water

(Contd. of page 4)

## 12 Ecological information

**Toxicity****Aquatic toxicity:**

Not available

No further relevant information available.

**Persistence and degradability**

Not available

No further relevant information available.

**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**

DOT, ADR, ADN, IMDG, IATA

Not hazardous for transportation

Not applicable

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

None

Not applicable

**Transport hazard class(es)**DOT, ADR, ADN, IMDG, IATA  
Class

None

Not applicable

**Packing group**

DOT, ADR, IMDG, IATA

None

Not applicable

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

Trade name: Nuclease-Free Water

(Contd. of page 5)

<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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:**

Substance is listed.

**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.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

Substance is not listed.

**TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

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

Substance is not listed.

**GHS label elements** Not applicable

**Signal word** Not applicable

**Hazard statements** Not applicable

**Water hazard class:** Generally not hazardous for water.

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

US

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/08/2020

**Trade name: Nuclease-Free Water**

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## 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

**Date of preparation / last revision** 09/11/2020 / 1.0

**Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*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*

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

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**1 Identification**

**Product identifier**

**Trade name:** Homogenization Solution, 30mL

**Article number:** Z305H

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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**



GHS05 Corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

**Label elements**

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

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Homogenization Solution, 30mL**

(Contd. of page 1)

**Hazard pictograms**

GHS05 GHS07

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

guanidinium thiocyanate

**Hazard statements***Harmful if swallowed, in contact with skin or if inhaled.**Causes severe skin burns and eye damage.***Precautionary statements***Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Call a poison center/doctor if you feel unwell.**If swallowed: Rinse mouth. Do NOT induce vomiting.**Immediately call a poison center/doctor.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**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.**Take off contaminated clothing and wash it before reuse.**Wash contaminated clothing before reuse.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***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):**

Corrosive

Environmental Hazard

**Primary route(s) of entry:**

Dermal

Inhalation

Oral

**Target Organ(s):***May affect Nervous system (Neurotoxin)**May cause Kidney damage (Nephrotoxin)**Risk of damage to eyes**Affects Gastrointestinal System***Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Homogenization Solution, 30mL**

**vPvB:** Not applicable.

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### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:**

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

**Dangerous components:**

593-84-0	guanidinium thiocyanate	25-50%
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**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.

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

Seek medical treatment.

**After inhalation:**

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

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

Seek medical treatment in case of complaints.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

**After eye contact:** Call a doctor immediately.

**After swallowing:**

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

Seek immediate medical advice.

**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:**

CO<sub>2</sub>, 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.

(Contd. on page 4)

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**Trade name: Homogenization Solution, 30mL**

**Protective equipment:** Mouth respiratory protective device.

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## 6 Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Keep people at a distance and stay upwind.

Wear protective clothing.

### **Environmental precautions:**

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

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

Dilute with plenty of water.

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

### **Methods and material for containment and cleaning up:**

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

Use neutralizing agent.

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

Keep away from water.

### **Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

## 7 Handling and storage

### **Handling:**

#### **Precautions for safe handling**

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

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

#### **Conditions for safe storage, including any incompatibilities**

##### **Storage:**

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

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

**Further information about storage conditions:** Keep receptacle tightly sealed.

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

## 8 Exposure controls/personal protection

### **Control parameters**

#### **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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 09/09/2020

**Trade name: Homogenization Solution, 30mL**

(Contd. of page 4)

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

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

**Breathing equipment:**

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

**Protection of hands:**

Protective gloves

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

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**

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

**Eye protection:**

Tightly sealed goggles

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

## \* 9 Physical and chemical properties

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

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 7.5

**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.

<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.

**Auto igniting:** Product is not selfigniting.

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

**Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.

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**Trade name: Homogenization Solution, 30mL**

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<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Water:</b>	52.0 %
<b>VOC content:</b>	0.00 %

<b>Solids content:</b>	48.0 %
<b>Other information</b>	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:**

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

Exposure to bleach may result in the generation of toxic gas

**Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

**Information on toxicological effects**

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

**593-84-0 guanidinium thiocyanate**

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

**Primary irritant effect:**

**on the skin:** Caustic effect on skin and mucous membranes.

**on the eye:** Strong caustic effect.

**Sensitization:** Sensitization possible through inhalation.

**Additional toxicological information:**

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

Harmful

Corrosive

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

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**Trade name: Homogenization Solution, 30mL**

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### **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:** Harmful to aquatic life with long lasting effects.

### **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:** Harmful to fish

### **Additional ecological information:**

#### **General notes:**

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

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

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

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

Harmful to aquatic organisms

### **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: Homogenization Solution, 30mL

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## 14 Transport information

<b>UN-Number</b>	UNI760
<b>DOT, ADR, IMDG, IATA</b>	
<b>UN proper shipping name</b>	None
<b>DOT</b>	Corrosive liquid, n.o.s. solution
<b>ADR</b>	1760 CORROSIVE LIQUID, N.O.S. solution
<b>IMDG, IATA</b>	CORROSIVE LIQUID, N.O.S. solution
<b>Transport hazard class(es)</b>	None
<b>DOT</b>	
	
<b>Class</b>	8 Corrosive substances
<b>Label</b>	8
<b>ADR</b>	
	
<b>Class</b>	8 (C9) Corrosive substances
<b>Label</b>	8
<b>IMDG, IATA</b>	
	
<b>Class</b>	8 Corrosive substances
<b>Label</b>	8
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	II
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Warning: Corrosive substances
<b>Hazard identification number (Kemler code):</b>	80
<b>EMS Number:</b>	F-A,S-B
<b>Stowage Category</b>	B
<b>Stowage Code</b>	SW2 Clear of living quarters.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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US

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Reviewed on 09/09/2020

Trade name: Homogenization Solution, 30mL

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**Transport/Additional information:****ADR****Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**IMDG****Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

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

## 15 Regulatory information

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

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 ingredients are listed.

**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.

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

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**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

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# Safety Data Sheet

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Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: Homogenization Solution, 30mL**

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**Hazard-determining components of labeling:**

guanidinium thiocyanate

**Hazard statements**

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

Causes severe skin burns and eye damage.

**Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

Immediately call a poison center/doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

Store locked up.

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

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

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

## 16 Other information

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

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 2.0

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 09/11/2020

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**Trade name: Homogenization Solution, 30mL**

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*PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1B: Skin corrosion/irritation – Category 1B**Eye Dam. 1: Serious eye damage/eye irritation – Category 1***\* Data compared to the previous version altered.**

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**1 Identification**

**Product identifier**

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

**Article number:** MC500C

**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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

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

**Label elements**

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

**Hazard pictograms**



GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Proteinase, *Tritirachium album serine*

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# Safety Data Sheet

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Printing date 09/11/2020

Reviewed on 09/11/2020

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

(Contd. of page 1)

**Hazard statements**

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

**Precautionary statements**

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

[In case of inadequate ventilation] wear respiratory protection.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

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

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

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

Health = 2

Fire = 1

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

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

Irritant

Sensitizer

**Primary route(s) of entry:** Inhalation

**Target Organ(s):** May cause Kidney damage (Nephrotoxin)

**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 non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

**Dangerous components:**

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

### 4 First-aid measures

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

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

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

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

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

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

**Information for doctor:**

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

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

(Contd. of page 2)

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, 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

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Wear protective clothing.

**Environmental precautions:**

Dilute with plenty of water.

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

**Methods and material for containment and cleaning up:**

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

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

## 7 Handling and storage

**Handling:**

**Precautions for safe handling**

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Work only in fume cabinet.

**Information about protection against explosions and fires:** Keep respiratory protective device available.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

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

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

**Further information about storage conditions:** None.

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

US

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

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

(Contd. of page 3)

## 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.

#### 56-81-5 glycerol

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

TLV TLV withdrawn-insufficient data human occup. exp.

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

### 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.

Do not eat or drink while working.

#### Breathing equipment:

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

#### Protection of hands:

Protective gloves

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Material of gloves

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

#### Eye protection:

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:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 7.2

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	> 100 °C (> 212 °F)

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- US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

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

(Contd. of page 4)

<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	400 °C (752 °F)
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure at 20 °C (68 °F):</b>	<0.1 hPa
<b>Density at 20 °C (68 °F):</b>	1.119 g/cm <sup>3</sup> (9.33806 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	50.0 %
<b>Water:</b>	47.8 %
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	0.0 %
<b>Other information</b>	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 data available.

**on the eye:** No data available.

**Sensitization:** Sensitization possible through inhalation.

**Additional toxicological information:**

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

Harmful

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

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

(Contd. of page 5)

### 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 available

No further relevant information available.

#### 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

(Contd. on page 7)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

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

(Contd. of page 6)

<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA Class</b>	Not applicable
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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:**

56-81-5 glycerol

**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.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**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

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

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

(Contd. of page 7)

**Hazard-determining components of labeling:**

Proteinase, *Tritirachium album serine*

**Hazard statements**

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

**Precautionary statements**

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

[In case of inadequate ventilation] wear respiratory protection.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

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

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

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

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

## 16 Other information

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

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 1.0

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

Resp. Sens. 1: Respiratory sensitisation – Category 1

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

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 09/11/2020

Reviewed on 09/11/2020

**1 Identification****Product identifier****Trade name:** Lytic Enhancer**Article number:** MC145A**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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 = 1

Reactivity = 0

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

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name:** Lytic Enhancer

(Contd. of page 1)

**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 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

50-75%

### 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:**CO<sub>2</sub>, 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.

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.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Lytic Enhancer

(Contd. of page 2)

See Section 13 for disposal information.

## 7 Handling and storage

### Handling:

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

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

**Conditions for safe storage, including any incompatibilities**

### Storage:

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

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

**Further information about storage conditions:** None.

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

## 8 Exposure controls/personal protection

### Control parameters

**Components with limit values that require monitoring at the workplace:**

57-55-6 Propylene glycol

WEEL Long-term value: 10 mg/m<sup>3</sup>

**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:** Not required.

### Material of gloves

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

**Eye protection:** Not required.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	> 100 °C (> 212 °F)

<b>Flammability (solid, gaseous):</b>	Not applicable.
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(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Lytic Enhancer

(Contd. of page 3)

<b>Ignition temperature:</b>	371 °C (699.8 °F)
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	2.6 Vol %
<b>Upper:</b>	12.6 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	0.1 hPa
<b>Density at 20 °C (68 °F):</b>	1.048 g/cm <sup>3</sup> (8.74556 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	53.6 %
<b>Water:</b>	42.3 %
<b>VOC content:</b>	53.60 %
<b>Solids content:</b>	1.5 %
<b>Other information</b>	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:** No sensitizing effects known.

**Additional toxicological information:**

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

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Lytic Enhancer

(Contd. of page 4)

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

None of the ingredients are listed.

**NTP (National Toxicology Program)**

None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

**12 Ecological information****Toxicity****Aquatic toxicity:**

Not available

No further relevant information available.

**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 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, IMDG, IATA**

Not applicable

**UN proper shipping name**

None

**DOT, ADR, ADN, IMDG, IATA**

Not applicable

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/11/2020

Trade name: Lytic Enhancer

(Contd. of page 5)

<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA Class</b>	Not applicable
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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 ingredients are listed.

**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.

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**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

(Contd. on page 7)

# Safety Data Sheet

*acc. to OSHA HCS*

Printing date 09/11/2020

Reviewed on 09/11/2020

**Trade name:** *Lytic Enhancer*

(Contd. of page 6)

**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  
2800 Woods Hollow Road  
Madison, WI  
Ph: (608)274-4330*

**Date of preparation / last revision** *09/11/2020 / 1.0*

**Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*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*

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

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**1 Identification****Product identifier****Trade name:** DNase I (lyophilized)**Article number:** Z358A**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](mailto:ChemicalRegulatory@promega.com)  
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**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

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

**Label elements**

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

**Hazard pictograms**

GHS08

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

Nuclease, deoxyribo-

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: DNase I (lyophilized)

(Contd. of page 1)

**Hazard statements**

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

**Precautionary statements**

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

[In case of inadequate ventilation] wear respiratory protection.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

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

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):** Not applicable

**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 non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

**Dangerous components:**

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

**Additional information:** For the wording of the listed 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.

**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.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

Trade name: DNase I (lyophilized)

(Contd. of page 2)

## 5 Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing agents:

CO<sub>2</sub>, 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

## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Avoid formation of dust.

Wear protective clothing.

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

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

#### Reference to other sections

See Section 7 for information on safe handling.

See Section 13 for disposal information.

## 7 Handling and storage

### Handling:

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

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

### Conditions for safe storage, including any incompatibilities

#### Storage:

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

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

**Further information about storage conditions:** None.

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

## 8 Exposure controls/personal protection

### Control parameters

#### Components with limit values that require monitoring at the workplace:

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

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

### Exposure controls

#### Personal protective equipment:

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

**Breathing equipment:** Not required.

#### Protection of hands:

Protective gloves

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

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: DNase I (lyophilized)**

(Contd. of page 3)

### Material of gloves

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

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

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	Solid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

**pH-value:** Not applicable.

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	1,500 °C (34.700 °F)
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Not determined.

**Decomposition temperature:** Not determined.

**Auto igniting:** Product is not selfigniting.

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

#### Explosion limits:

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not applicable.

**Density at 20 °C (68 °F):** 1.02 g/cm<sup>3</sup> (8.5119 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not applicable.

**Evaporation rate** Not applicable.

#### Solubility in / Miscibility with

**Water:** Soluble.

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

#### Viscosity:

**Dynamic:** Not applicable.

**Kinematic:** Not applicable.

**Water:** 0.0 %

**VOC content:** 0.00 %

**Solids content:** 100.0 %

**Other information** No further relevant information available.

## 10 Stability and reactivity

**Reactivity** No further relevant information available.

#### Chemical stability

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

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/11/2020

Reviewed on 09/09/2020

**Trade name: DNase I (lyophilized)**

(Contd. of page 4)

**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 data available.

**on the eye:** No data available.

**Sensitization:** No sensitizing effects known.

#### Additional toxicological information:

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

#### 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 available

No further relevant information available.

#### 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.

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## 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

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable
<b>Transport hazard class(es)</b>	None
<b>DOT, ADR, ADN, IMDG, IATA Class</b>	Not applicable
<b>Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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 ingredients are listed.

**Hazardous Air Pollutants**

None of the ingredients are listed.

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

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

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

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**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:**

Nuclease, deoxyribo-

**Hazard statements**

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

**Precautionary statements**

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

[In case of inadequate ventilation] wear respiratory protection.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

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

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

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

## 16 Other information

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

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 09/11/2020 / 2.0**Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organization

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

IMDG: International Maritime Code for Dangerous Goods

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DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
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  
Resp. Sens. 1: Respiratory sensitisation – Category 1  
**\* Data compared to the previous version altered.**

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