

**Kit Components**

Product code	Description
<b>JA2355</b>	<b>4-1BB Bioassay 5X</b>

## Components:

J235	4-1BB Effector Cells
J121A	Fetal Bovine Serum
G719A	Bio-Glo™ Luciferase Assay Buffer
G720A	Bio-Glo™ Luciferase Assay Substrate
G708A	RPMI 1640 Medium



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

Printing date 08/21/2019

Reviewed on 08/21/2019

**1 Identification****Product identifier****Trade name:** *4-1BB Effector Cells***Article number:** *J235***Application of the substance / the mixture** *Laboratory chemicals***Details of the supplier of the safety data sheet****Manufacturer/Supplier:***Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330***Information department:** *SDS author: Regulatory.Affairs@promega.com***Emergency telephone number:***For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA  
and Canada: 1-800-424-9300  
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)***2 Hazard(s) identification****Classification of the substance or mixture***The product is not classified as hazardous according to the Globally Harmonized System (GHS).***Label elements****GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***Classification system:****NFPA ratings (scale 0 - 4)***Health = 0**Fire = 0**Reactivity = 0***HMIS-ratings (scale 0 - 4)***Health = 0**Fire = 0**Reactivity = 0***OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** *Not applicable***Target Organ(s):** *Not applicable or unknown***Other hazards****Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.*

# Safety Data Sheet

acc. to OSHA HCS

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Trade name: 4-1BB Effector Cells

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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:**

67-68-5	dimethyl sulfoxide	5-10%
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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:** 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.

See Section 13 for disposal information.

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Trade name: 4-1BB Effector Cells

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## 7 Handling and storage

### Handling:

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

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

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

### Storage:

**Requirements to be met by storerooms and receptacles:** 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:**

67-68-5 dimethyl sulfoxide

WEEL Long-term value: 250 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:**

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>	Not applicable.

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

**Ignition temperature:** 270 °C (518 °F)

**Decomposition temperature:** Not determined.

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Trade name: 4-1BB Effector Cells

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<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:</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>Organic solvents:</b>	10.0 %
<b>Water:</b>	77.7 %
<b>VOC content:</b>	10.00 %
<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.

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Trade name: 4-1BB Effector Cells

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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.

**Behavior in environmental systems:****Bioaccumulative potential**

Not known

No further relevant information available.

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

Not 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**

Void

**ADR, IMDG, IATA**

UN3245

**UN proper shipping name**

None

**DOT**

Void

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Trade name: 4-1BB Effector Cells

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**ADR** 3245 GENETICALLY MODIFIED MICROORGANISMS  
**IMDG, IATA** GENETICALLY MODIFIED MICROORGANISMS

**Transport hazard class(es)** None

**DOT**  
**Class** Void

**ADR, IMDG, IATA**



**Class** 9 Miscellaneous dangerous substances and articles

**Label** 9

**Packing group** None  
**DOT** Void

**Environmental hazards:**  
**Marine pollutant:** No

**Special precautions for user** Warning: Miscellaneous dangerous substances and articles  
**Stowage Code** SW7 As approved by the competent authorities of the countries involved in the shipment

**Segregation Code** SG50 Segregation from foodstuffs as in 7.3.4.2.1, 7.6.3.1.2 or 7.7.3.6.

**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: E0  
 Not permitted as Excepted Quantity

**IMDG**  
**Limited quantities (LQ)** 0  
**Excepted quantities (EQ)** Code: E0  
 Not permitted as Excepted Quantity

**UN "Model Regulation":** UN 3245 GENETICALLY MODIFIED MICROORGANISMS, 9

## 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:**

67-68-5 dimethyl sulfoxide

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**Trade name: 4-1BB Effector Cells**

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**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** Void

**Signal word** Void

**Hazard statements** Void

**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

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 08/21/2019 / -

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

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

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**Trade name: 4-1BB Effector Cells**

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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.**

US

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

Printing date 08/21/2019

Reviewed on 08/21/2019

\* **1 Identification**

**Product identifier**

**Trade name:** Fetal Bovine Serum

**Article number:** J121A

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

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

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

**Information department:** SDS author: [Regulatory.Affairs@promega.com](mailto:Regulatory.Affairs@promega.com)

**Emergency telephone number:**

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

\* **2 Hazard(s) identification**

**Classification of the substance or mixture**

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

**Label elements**

**GHS label elements** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

**Classification system:**

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

Health = 0

Fire = 0

Reactivity = 0

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

Health = 0

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** Not applicable

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

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

Trade name: **Fetal Bovine Serum**

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### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS No. Description**

Fetal bovine serum

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

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

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

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling:**

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

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

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Trade name: *Fetal Bovine Serum*

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**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>	Not determined
<b>Odor threshold:</b>	Not determined.

**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:** Not determined.

**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.

<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.

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**Trade name: Fetal Bovine Serum**

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### Solubility in / Miscibility with

**Water:** Not miscible or difficult to mix.  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
**Dynamic:** Not determined.  
**Kinematic:** Not determined.  
**VOC content:** 0.00 %  
**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.

## 12 Ecological information

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

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Trade name: **Fetal Bovine Serum**

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**Behavior in environmental systems:****Bioaccumulative potential**

Not known

No further relevant information available.

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

## 13 Disposal considerations

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

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

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

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

## 14 Transport information

<b>UN-Number</b> <b>DOT, ADR, ADN, IMDG, IATA</b>	Not hazardous for transportation Void
<b>UN proper shipping name</b> <b>DOT, ADR, ADN, IMDG, IATA</b>	None Void
<b>Transport hazard class(es)</b> <b>DOT, ADR, ADN, IMDG, IATA</b> <b>Class</b>	None Void
<b>Packing group</b> <b>DOT, ADR, IMDG, IATA</b>	None Void
<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>	Void

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Reviewed on 08/21/2019

Trade name: **Fetal Bovine Serum**

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## 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 not 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** Void

**Signal word** Void

**Hazard statements** Void

**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

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 08/21/2019 / -

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

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**Trade name: Fetal Bovine Serum**

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**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*

*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.**

US

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

Printing date 08/21/2019

Reviewed on 08/21/2019

**1 Identification****Product identifier****Trade name:** Bio-Glo™ Luciferase Assay Buffer**Article number:** G719A**Application of the substance / the mixture** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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

**Information department:** SDS author: [Regulatory.Affairs@promega.com](mailto:Regulatory.Affairs@promega.com)**Emergency telephone number:**

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

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

GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

**Label elements****GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms** GHS08**Signal word** Warning**Hazard statements**

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

**Precautionary statements**

Obtain special instructions before use.

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

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

IF exposed or concerned: 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 = 0

Reactivity = 0

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Buffer**

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**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:**

62-56-6 thiourea

&lt;1%

**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.

### 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 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Buffer**

(Contd. of page 2)

**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.

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.

**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:**

**Form:**

Fluid

**Color:**

Colorless

**Odor:**

Not determined

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Buffer**

(Contd. of page 3)

<b>Odor threshold:</b>	Not determined.
<b>pH-value at 20 °C (68 °F):</b>	6.7
<b>Change in condition</b>	
<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.
<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:</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>Organic solvents:</b>	0.5 %
<b>Water:</b>	95.1 %
<b>VOC content:</b>	0.53 %
<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:** No sensitizing effects known.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Buffer**

(Contd. of page 4)

**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)**

62-56-6	thiourea	3
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**NTP (National Toxicology Program)**

62-56-6	thiourea	R
---------	----------	---

**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.

**Behavior in environmental systems:****Bioaccumulative potential**

Not known

No further relevant information available.

**Mobility in soil** No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:** Not 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
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(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

Trade name: **Bio-Glo™ Luciferase Assay Buffer**

(Contd. of page 5)

<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
----------------------------------	------

<b>UN proper shipping name</b>	None
--------------------------------	------

<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
----------------------------------	------

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

<b>Packing group</b>	None
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<b>DOT, ADR, IMDG, IATA</b>	Void
-----------------------------	------

<b>Environmental hazards:</b>	
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<b>Marine pollutant:</b>	No
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<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>	Void
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## 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>	
--	--

62-56-6   thiourea
--------------------

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

62-56-6   thiourea
--------------------

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

67-56-1   methanol
--------------------

<b>Proposition 65</b>	
-----------------------	--

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

62-56-6   thiourea
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<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.
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<b>Chemicals known to cause developmental toxicity:</b>	
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67-56-1   methanol
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<b>Cancerogenity categories</b>	
---------------------------------	--

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

None of the ingredients are listed.
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<b>TLV (Threshold Limit Value established by ACGIH)</b>	
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None of the ingredients are listed.
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(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Buffer**

(Contd. of page 6)

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

None of the ingredients are listed.

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

**Signal word** Warning

**Hazard statements**

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

**Precautionary statements**

Obtain special instructions before use.

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

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

IF exposed or concerned: Get medical advice/attention.

Store locked up.

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

**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

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

**Date of preparation / last revision** 08/21/2019 / -

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

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

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

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



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

Printing date 08/21/2019

Reviewed on 08/21/2019

\* **1 Identification**

**Product identifier**

**Trade name:** Bio-Glo™ Luciferase Assay Substrate

**Article number:** G720A

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

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

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

**Information department:** SDS author: [Regulatory.Affairs@promega.com](mailto:Regulatory.Affairs@promega.com)

**Emergency telephone number:**

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

\* **2 Hazard(s) identification**

**Classification of the substance or mixture**

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

**Label elements**

**GHS label elements** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

**Classification system:**

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

Health = 0

Fire = 0

Reactivity = 0

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

Health = 1

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** Not applicable

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

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Substrate**

(Contd. of page 1)

### 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:**

3483-12-3	DL-Dithiothreitol	<2%
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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:** 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:** Do not allow to enter sewers/ surface or ground water.

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

**Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Substrate**

(Contd. of page 2)

## 7 Handling and storage

### Handling:

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

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

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

### Storage:

**Requirements to be met by storerooms and receptacles:** 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>	Solid
<b>Color:</b>	Colorless
<b>Odor:</b>	Not determined
<b>Odor threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 6.7

#### Change in condition

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

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

**Decomposition temperature:** Not determined.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Substrate**

(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 applicable.
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Soluble.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
<b>VOC content:</b>	0.00 %
<b>Solids content:</b>	100.0 %
<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)**

None of the ingredients are listed.

#### **NTP (National Toxicology Program)**

None of the ingredients are listed.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Substrate**

(Contd. of page 4)

**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.

**Behavior in environmental systems:**

**Bioaccumulative potential**

Not known

No further relevant information available.

**Mobility in soil** No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:** Not known to be hazardous to water.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

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

## \* 13 Disposal considerations

**Waste treatment methods**

**Recommendation:**

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

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

**Uncleaned 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** Void

**UN proper shipping name** None

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

**Transport hazard class(es)** None

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

**Class** Void

**Packing group** None

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Substrate**

(Contd. of page 5)

<b>DOT, ADR, IMDG, IATA</b>	Void
<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 MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

## 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:**

3483-12-3 | DL-Dithiothreitol

**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** Void

**Signal word** Void

**Hazard statements** Void

**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.

US

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

**Trade name: Bio-Glo™ Luciferase Assay Substrate**

(Contd. of page 6)

## 16 Other information

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

**Department issuing SDS:**

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

**Date of preparation / last revision** 08/21/2019 / -

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

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 08/21/2019

Reviewed on 08/21/2019

**1 Identification****Product identifier****Trade name:** RPMI 1640 Medium**Article number:** G708A**Application of the substance / the mixture** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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

**Information department:** SDS author: [Regulatory.Affairs@promega.com](mailto:Regulatory.Affairs@promega.com)**Emergency telephone number:**

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

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

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

**Label elements****GHS label elements** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

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

Health = 0

Fire = 0

Reactivity = 0

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



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2019

Reviewed on 08/21/2019

Trade name: RPMI 1640 Medium

(Contd. of page 1)

### 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:** Void

**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.

See Section 13 for disposal information.

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## 7 Handling and storage

### Handling:

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

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

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

### Storage:

**Requirements to be met by storerooms and receptacles:** 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>	Not determined
<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.

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

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

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**Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**Vapor pressure:** Not determined.**Density:** Not determined.**Relative density** Not determined.**Vapor density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Fully miscible.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic at 20 °C (68 °F):** 0.0952 mPas**Kinematic:** Not determined.**Water:** 98.4 %**VOC content:** 0.00 %**Solids content:** 1.6 %**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.**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.

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**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.

**Behavior in environmental systems:**

**Bioaccumulative potential**

Not known

No further relevant information available.

**Mobility in soil** No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:**

Not 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

<b>UN-Number</b>	Not hazardous for transportation
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>UN proper shipping name</b>	None
<b>DOT, ADR, ADN, IMDG, IATA</b>	Void
<b>Transport hazard class(es)</b>	None

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

## 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** *Void***Signal word** *Void***Hazard statements** *Void*

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

**Date of preparation / last revision** 08/21/2019 / -

**Abbreviations and acronyms:**

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

ICAO: International Civil Aviation 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

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