Kit Components

Product code	Description
E2940	**Dual-Glo® Luciferase Assay System, 100ml**

Components:

E297A	Dual-Glo® Luciferase Assay Substrate
E298	Dual-Glo® Luciferase Buffer
E313	Dual-Glo® Stop and Glo® Substrate
E314	Dual-Glo® Stop & Glo® Buffer

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

*
1 Identification

Product identifier
Trade name: Dual-Glo® Luciferase Assay Substrate

Article number: E297A
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
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

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.

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

GHS07

(Contd. on page 2)

Safety Data Sheet
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Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 1)

Signal word Warning

Hazard-determining components of labeling:
DL-Dithiothreitol
sodium hydrosulphite
Hazard statements
Harmful if swallowed.
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 / eye protection / face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Rinse mouth.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
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):
May affect Nervous system (Neurotoxin)
Affects Pulmonary system (Lungs)
Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Assay Substrate

(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:		
3483-12-3	DL-Dithiothreitol	50-75%
7775-14-6	sodium hydrosulphite	1-5%

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

*
4 First-aid measures

Description of first aid measures
General information:
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:
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:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
None known
No further relevant information available.
Advice for firefighters No special advice

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 3)

*
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:
Dispose contaminated material as waste according to Section 13.
Pick up mechanically.
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.
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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes 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
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 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 4)

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:	
Form:	*Solid*
Color:	*Colorless*
Odor:	*Odorless*
Odor threshold:	*Not determined.*
pH-value:	*Not applicable.*
Change in condition	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*Undetermined.*
Flash point:	*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:	
Lower:	*Not determined.*
Upper:	*Not determined.*
Vapor pressure:	*Not applicable.*
Density:	*Not determined.*
Relative density	*Not determined.*
Vapor density	*Not applicable.*
Evaporation rate	*Not applicable.*
Solubility in / Miscibility with	
Water:	*Slightly soluble.*
Partition coefficient (n-octanol/water):	*Not determined.*
Viscosity:	
Dynamic:	*Not applicable.*
Kinematic:	*Not applicable.*
Water:	*2.0 %*
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.*

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Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 5)

Chemical stability
Thermal decomposition / conditions to be avoided: *No decomposition if used according to specifications.*
Possibility of hazardous reactions *Reacts with acids, alkalis and oxidizing agents.*
Conditions to avoid *No further relevant information available.*
Incompatible materials: *No further relevant information available.*
Hazardous decomposition products:
Sulfur oxides (SOx)
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

*
11 Toxicological information

Information on toxicological effects
Acute toxicity:

LD/LC50 values that are relevant for classification:		
3483-12-3 DL-Dithiothreitol		
Oral	*LD50*	*400 mg/kg (Rat)*

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.
Bioaccumulative potential
Not known
No further relevant information available.
Mobility in soil *No further relevant information available.*
Ecotoxicological effects:
Remark: *Not available*

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Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 6)

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

*
13 Disposal considerations

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

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

*
14 Transport information

UN-Number	*Not hazardous for transportation*
DOT, ADR, ADN	*Not applicable*
IMDG, IATA	*UN-*
UN proper shipping name	*None*
DOT, ADR, ADN, IMDG, IATA	*Not applicable*
Transport hazard class(es)	*None*
DOT, ADR, ADN, IMDG, IATA	
Class	*Not applicable*
Packing group	*None*
DOT, ADR, IMDG, IATA	*Not applicable*
Environmental hazards:	
Marine pollutant:	*No*
Special precautions for user	*Not applicable.*
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	*Not applicable.*
UN "Model Regulation":	*Not applicable*

*
15 Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 7)

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

3483-12-3	DL-Dithiothreitol
7775-14-6	sodium hydrosulphite

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.

Cancerogenity 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 Warning

Hazard-determining components of labeling:
DL-Dithiothreitol
sodium hydrosulphite
Hazard statements
Harmful if swallowed.
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 / eye protection / face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Rinse mouth.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.

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Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Luciferase Assay Substrate

(Contd. of page 8)

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 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 *10/20/2020 / 1.0*
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: Internation 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
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 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 10/20/2020 Reviewed on 09/22/2020

*
1 Identification

Product identifier
Trade name: Dual-Glo® Luciferase Buffer

Article number: E298
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
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


GHS07

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).
Hazard pictograms


GHS07

Signal word Warning
Hazard statements
Causes serious eye irritation.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Luciferase Buffer

(Contd. of page 1)

Precautionary statements
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
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:		
127087-87-0	Nonylphenol Ethoxylate	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.

*
5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

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Trade name: Dual-Glo® Luciferase Buffer

(Contd. of page 2)

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).
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 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 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Buffer

(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:	
Form:	*Fluid*
Color:	*Colorless*
Odor:	*Not determined*
Odor threshold:	*Not determined.*
pH-value at 20 °C (68 °F):	*7.4*
Change in condition	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*Undetermined.*
Flash point:	*Not applicable.*
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:	
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:	*Not determined.*
Kinematic:	*Not determined.*
Water:	*91.2 %*
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.*

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Luciferase Buffer

(Contd. of page 4)

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.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Buffer

(Contd. of page 5)

*
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, ADN, IMDG, IATA**	None Not applicable
Transport hazard class(es)	None
DOT, ADR, ADN, IMDG, IATA **Class**	Not applicable
Packing group **DOT, ADR, IMDG, IATA**	None Not applicable
Environmental hazards: **Marine pollutant:**	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not applicable

*
15 Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

127087-87-0	Nonylphenol Ethoxylate

TSCA (Toxic Substances Control Act) Inventory:

127087-87-0	Nonylphenol Ethoxylate

Hazardous Air Pollutants
None of the ingredients are listed.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Luciferase Buffer

(Contd. of page 6)

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.

Cancerogenity 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 Warning
Hazard statements
Causes serious eye irritation.
Precautionary statements
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

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 10/20/2020 / 1.0
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: Internation 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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 *Reviewed on 09/22/2020*

Trade name: Dual-Glo® Luciferase Buffer

(Contd. of page 7)

EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
**** Data compared to the previous version altered.***

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 *Reviewed on 09/22/2020*

*
1 Identification

Product identifier
Trade name: Dual-Glo® Stop and Glo® Substrate

Article number: *E313*
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
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)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(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: CO2, 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%
56-81-5	glycerol	10-15%

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.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 2)

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.*

*
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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 3)

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:	
64-17-5 ethanol	
PEL	Long-term value: 1900 mg/m³, 1000 ppm
REL	Long-term value: 1900 mg/m³, 1000 ppm
TLV	Short-term value: 1880 mg/m³, 1000 ppm
56-81-5 glycerol	
PEL	Long-term value: 15* 5** mg/m³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

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

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:

Form:	*Fluid*
Color:	*Colorless*
Odor:	*Alcohol-like*
Odor threshold:	*Not determined.*

Change in condition

Melting point/Melting range:	*Undetermined.*

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 4)

Boiling point/Boiling range:	78 °C (172.4 °F)
Flash point:	< 23 °C (< 73.4 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	400 °C (752 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard. Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol %
Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)
Density at 20 °C (68 °F):	0.853 g/cm³ (7.11829 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:	99.8 %
VOC content:	86.82 %
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: 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.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 5)

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)		
64-17-5	*ethanol*	*1*
7664-93-9	*sulphuric acid*	*1*

NTP (National Toxicology Program)		
7664-93-9	*sulphuric acid*	*K*

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.*

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Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 6)

*

14 Transport information

UN-Number
DOT, ADR, IMDG, IATA UN1170

UN proper shipping name
DOT Ethanol solutions
ADR 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
IMDG ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
IATA ETHANOL SOLUTION

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 A

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 7)

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 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 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:

64-17-5	ethanol
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:

64-17-5	ethanol

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

64-17-5	ethanol	A3
7664-93-9	sulphuric acid	A2

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Stop and Glo® Substrate

(Contd. of page 8)

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.
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 10/20/2020 / 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
Flam. Liq. 2: Flammable liquids – Category 2
*** Data compared to the previous version altered.**

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

*
1 Identification

Product identifier
Trade name: Dual-Glo® Stop & Glo® Buffer

Article number: E314
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
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

Carc. 2	H351	Suspected of causing cancer.
Repr. 2	H361	Suspected of damaging fertility or the unborn child.
STOT SE 1	H370	Causes damage to the central nervous system and the visual organs.

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

GHS08

Signal word Danger

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Stop & Glo® Buffer

(Contd. of page 1)

Hazard-determining components of labeling:
methanol
trans-1,2-Diaminocyclohexane-N,N,N′,N′-tetraacetic acid monohydrate
Hazard statements
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
Causes damage to the central nervous system and the visual organs.
Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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/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 = 1
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.*

*
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:		
125572-95-4	*trans-1,2-Diaminocyclohexane-N,N,N′,N′-tetraacetic acid monohydrate*	*1-5%*
67-56-1	*methanol*	*1-5%*
62-56-6	*thiourea*	*<1%*
127087-87-0	*Nonylphenol Ethoxylate*	*<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.*

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop & Glo® Buffer

(Contd. of page 2)

After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water.*
After swallowing: *If the patient feels unwell or is concerned, obtain medical advice.*
Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
None known
No further relevant information available.
Advice for firefighters *No special advice*

*
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.*
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 13 for disposal information.

*
7 Handling and storage

Handling:
Precautions for safe handling *No special 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.*

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 Reviewed on 09/22/2020

Trade name: Dual-Glo® Stop & Glo® Buffer

(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 other constituents have no known exposure limits.

67-56-1 methanol	
PEL	Long-term value: 260 mg/m³, 200 ppm
REL	Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm Skin
TLV	Short-term value: 328 mg/m³, 250 ppm Long-term value: 262 mg/m³, 200 ppm Skin; BEI

Ingredients with biological limit values:	
67-56-1 methanol	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (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:
Ensure that washing facilities are available at the work place.
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
Odor threshold:	Not determined.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/20/2020 *Reviewed on 09/22/2020*

Trade name: Dual-Glo® Stop & Glo® Buffer

(Contd. of page 4)

pH-value at 20 °C (68 °F):	5.5
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density at 20 °C (68 °F):	1.0186 g/cm³ (8.50022 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:	2.0 %
Water:	92.6 %
VOC content:	2.00 %
Solids content:	5.2 %
Other information	No further relevant information available.

*

10 Stability and reactivity

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

*

11 Toxicological information

Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: No data available.
on the eye: No data available.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dual-Glo® Stop & Glo® Buffer

(Contd. of page 5)

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)		
62-56-6	thiourea	3

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.
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

UN-Number	Not hazardous for transportation

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DOT, ADR, ADN, IMDG, IATA	Not applicable
UN proper shipping name **DOT, ADR, ADN, IMDG, IATA**	None Not applicable
Transport hazard class(es)	None
DOT, ADR, ADN, IMDG, IATA **Class**	Not applicable
Packing group **DOT, ADR, IMDG, IATA**	None Not applicable
Environmental hazards: **Marine pollutant:**	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not applicable

*

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

67-56-1	methanol
62-56-6	thiourea
127087-87-0	Nonylphenol Ethoxylate

TSCA (Toxic Substances Control Act) Inventory:

67-56-1	methanol
62-56-6	thiourea
127087-87-0	Nonylphenol Ethoxylate

Hazardous Air Pollutants

67-56-1	methanol

Proposition 65

Chemicals known to cause cancer:

62-56-6	thiourea

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:

67-56-1	methanol

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Cancerogenity 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:
methanol
trans-1,2-Diaminocyclohexane-N,N,N′,N′-tetraacetic acid monohydrate
Hazard statements
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
Causes damage to the central nervous system and the visual organs.
Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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/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
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330
Date of preparation / last revision 10/20/2020 / 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: Internation 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)

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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
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
**** Data compared to the previous version altered.***