02/23/2023	Kit Components	
Product code	Description	
G6080	CellTiter-Fluor [™] Cell Viability Assay	
Components:		
G608A	GF-AFC Substrate	
G610A	Assay Buffer	



Printing date 02/23/2023

Reviewed on 02/14/2023

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1 Identification

Product identifier Trade name: <u>GF-AFC Substrate</u> Article number: G608A Application of the substance / the mixture For Laboratory Use

Details of the supplier of the safety data sheet Manufacturer/Supplier: Promega Corporation 2800 Woods Hollow Road Madison, WI 53711 U.S.A. 1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com

Emergency telephone number:

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

2 Hazard(s) identification

Classification of the substance or mixture



Acute Toxicity - Dermal 4 H312 Harmful in contact with skin.

Flammable Liquids 4 H227 Combustible liquid.

Label elements

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



Signal word Warning

Hazard-determining components of labeling: dimethyl sulfoxide Hazard statements Combustible liquid. Harmful in contact with skin. Precautionary statements Keep away from flames and hot surfaces. – No smoking. Wear protective gloves/protective clothing/eye protection/face protection.

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Trade name: GF-AFC Substrate

	(Contd. of page 1)
If on skin: Wash with plenty of water.	
Call a poison center/doctor if you feel unwell.	
Take off contaminated clothing and wash it before reuse.	
In case of fire: Use CO2, powder or water spray to extinguish.	
Store in a well-ventilated place. Keep cool.	
Dispose of contents/container in accordance with local/regional/national/international regulations	
Classification system:	
NFPÅ ratings (scale 0 - 4)	
Health = 2	
Fire = 2	
Reactivity = 0	
HMIS-ratings (scale 0 - 4)	
Health = 2	
Fire = 2	
Reactivity = 0	
OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Combustible	
Primary route(s) of entry: Oral	
Target Organ(s):	
Dermal hazard (Cutaneous hazard)	
Risk of damage to eyes	
Other hazards	
Results of PBT and vPvB assessment	
PBT: Not applicable.	
vPvB: Not applicable.	

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

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

Dangerous components:

67-68-5 dimethyl sulfoxide

75-100%

4 First-aid measures

Description of first aid measures

General information:

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

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

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

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

After swallowing: Seek immediate medical advice.

Information for doctor:

Most important symptoms and effects, both acute and delayed None

No further relevant information available.

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Trade name: GF-AFC Substrate

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 No special advice

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Remove persons from danger area.
Wear protective clothing.
Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
Reference to other sections
See Section 7 for information on safe handling.

7 Handling and storage

Handling:

Precautions for safe handling Keep receptacles tightly sealed. Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. **Information about protection against explosions and fires:** No special measures required.

Conditions for safe storage, including any incompatibilities Storage: Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light. Information about storage in one common storage facility: Not required. Further information about storage conditions: None.

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

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

67-68-5 dimethyl sulfoxide

WEEL Long-term value: 250 ppm

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Reviewed on 02/14/2023

Trade name: GF-AFC Substrate

(Contd. of page 3)
Additional information: The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat or drink while working.
Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use
respiratory protective device that is independent of circulating air.
Protection of hands: Not required.
Material of gloves
Gloves impermeable to the specific chemical substance.
Please observe the instructions regarding permeability and breakthrough time which are provided by the manufacturer/supplier of the gloves. Ensure gloves are suitable for the task which includes, but is not limited to, chemical compatibility, dexterity, operational conditions, user susceptibility, e.g., sensitization effects. Consider specific local conditions under which the product is used such as the danger of cuts and abrasion. Remove gloves with care to avoid skin contamination.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

*

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

Information on basic physical and c General Information Appearance:	chemical properties	
Form:	Fluid	
Color:	Colorless	
Odor:	Not determined	
Odor threshold:	Not determined.	
Change in condition Melting point/Melting range: Boiling point/Boiling range: Flash point:	Undetermined. 189 °C (372.2 °F) 87 °C (188.6 °F)	
Flammability (solid, gaseous): Decomposition temperature:	Not applicable. Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion: Explosion limits:	Product does not present an explosion hazard.	
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	2.5 hPa (1.9 mm Hg)	
Density at 20 °C (68 °F):	1.137 g/cm³ (9.48827 lbs/gal)	
Relative density	Not determined.	

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Trade name: GF-AFC Substrate

		(Contd. of page
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octano	l/water): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent separation test		
Organic solvents:	94.5 %	
VOC content:	94.53 %	
Solids content:	5.7 %	
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 Strong acids Strong reducing agents Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

67-68-5 dimethyl sulfoxide

Oral	LD50	14,500 mg/kg (Rat)
Dermal	LD50	14,500 mg/kg (Rat) 1,800 mg/kg (Mouse)
Irritation of eyes	acute	500 mg (Rabbit)
		mild irritation

Primary irritant effect:

on the skin: Causes skin irritation. on the eye: No data available. Sensitization: In case of skin contact: not sensitising

In case of inhalation: not sensitising Additional toxical original information:

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: OECD test guideline 471, Ames test. Harmful

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Trade name: GF-AFC Substrate

(Contd. of page 5)

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program) None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

Toxicity

Aquatic toxicity: Not harmful to the aquatic environment Persistence and degradability *Not available* No further relevant information available. **Bioaccumulative potential** Not known No further relevant information available. Mobility in soil No further relevant information available. Ecotoxicological effects: **Remark:** Not available Additional ecological information: General notes: 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.

UN-Number	Not hazardous for transportation	
DOT, ADR, IMDG, IATA	Not applicable	
UN proper shipping name	None	
DOT, ADR, ADN, IMDG, IATA	Not applicable	

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Trade name: GF-AFC Substrate

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

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

67-68-5 dimethyl sulfoxide

Hazardous Air Pollutants

None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

67-68-5 dimethyl sulfoxide

Pennsylvania Right-to-Know List:

None of the ingredients are listed.

Cancerogenity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value)

None of the ingredients are listed.

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

None of the ingredients are listed.

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Reviewed on 02/14/2023

Trade name: GF-AFC Substrate

(Contd. of page 7)
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). Signal word Warning
Hazard-determining components of labeling:
dimethyl sulfoxide
Hazard statements
Combustible liquid.
Harmful in contact with skin.
Precautionary statements
Keep away from flames and hot surfaces. – No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
Call a poison center/doctor if you feel unwell.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use CO2, powder or water spray to extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Chemical safety assessment
Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

16 Other information

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

Department issuing SDS:

Promega Corporation Chemical Regulatory Department 2800 Woods Hollow Road Madison, WI Ph:(608)274-4330 chemicalregulatory@promega.com Contact: Date of preparation / last revision 02/23/2023 Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit Flammable Liquids 4: Flammable liquids – Category 4 Acute Toxicity - Dermal 4: Acute toxicity - Category 4



Printing date 02/23/2023

Reviewed on 02/06/2023

1 Identification

Product identifier Trade name: <u>Assay Buffer</u> Article number: G610A Application of the substance / the mixture For Laboratory Use

Details of the supplier of the safety data sheet Manufacturer/Supplier: Promega Corporation 2800 Woods Hollow Road Madison, WI 53711 U.S.A. 1-800-356-9526 or (608)-274-4330

Information department: SDS author: chemicalregulatory@promega.com

Emergency telephone number:

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

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements GHS label elements Not applicable Hazard pictograms Not applicable Signal word Not applicable Hazard statements Not applicable Classification system: NFPA ratings (scale 0 - 4) Health = 0Fire = 0*Reactivity* = 0HMIS-ratings (scale 0 - 4) *Health* = 0Fire = 0Reactivity = 0OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable Target Organ(s): Not applicable or unknown **Other hazards** Results of PBT and vPvB assessment **PBT:** Not applicable. vPvB: Not applicable.

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Reviewed on 02/06/2023

Trade name: Assay Buffer

(Contd. of page 1)

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

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

Dangerous components: Not applicable

4 First-aid measures

Description of first aid measures

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

No further relevant information available.

5 Fire-fighting measures

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

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required. Environmental precautions: Dilute with plenty of water. Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Reference to other sections 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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Printing date 02/23/2023

Reviewed on 02/06/2023

Trade name: Assay Buffer

(Contd. of page 2)

Conditions for safe storage, including any incompatibilities Storage: Requirements to be met by storerooms and receptacles: Do not store below -20°C. Protected from light. Information about storage in one common storage facility: Not required. Further information about storage conditions: None. Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands: Not required.

Material of gloves

Gloves impermeable to the specific chemical substance.

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

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

Information on basic physical and General Information	chemical properties	
Appearance:		
Form:	Fluid	
Color:	Colorless	
Odor:	Odorless	
Odor threshold:	Not determined.	
pH-value at 20 °C (68 °F):	7.5	
Change in condition		
Melting point/Melting range:	0 °C (32 °F)	
Boiling point/Boiling range:	100 °C (212 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Decomposition temperature:	Not determined.	

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Reviewed on 02/06/2023

Trade name: Assay Buffer

	(C	ontd. of page
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):	1.007 g/cm ³ (8.40341 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/wo	uter): Not determined.	
Viscosity:	, ,	
Dynamic at 20 °C (68 °F):	0.0952 mPas	
Kinematic:	Not determined.	
Solvent separation test		
Water:	97.2 %	
VOC content:	0.00 %	
Solids content:	25.9 %	
Other information	No further relevant information available.	

10 Stability and reactivity

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

11 Toxicological information

Information on toxicological effects Acute toxicity: LD/LC50 values that are relevant for classification: No data available Primary irritant effect: on the skin: No irritant effect. on the eye: No irritating effect. Sensitization: In case of skin contact: not sensitising In case of inhalation: not sensitising Additional toxicological information: The product is not subject to classification according to internally approved calculation methods for preparations:

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Trade name: Assay Buffer

(Contd. of page 4)

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program) None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

Toxicity

Aquatic toxicity: Not harmful to the aquatic environment Persistence and degradability *Not available* No further relevant information available. **Bioaccumulative potential** Not known No further relevant information available. Mobility in soil No further relevant information available. Ecotoxicological effects: **Remark:** Not available Additional ecological information: General notes: Not available. Not known to be hazardous to water. Results of PBT and vPvB assessment **PBT:** Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation:

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

Uncleaned packagings:

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

	ot hazardous for transportation
	ot applicable
UN proper shipping name N DOT, ADR, ADN, IMDG, IATA N	one

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Trade name: Assay Buffer

		(Contd. of page 5
Transport hazard class(es)	None	
DOT, ADR, ADN, IMDG, IATA Class	Not applicable	
Packing group DOT, ADR, IMDG, IATA	None Not applicable	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
UN "Model Regulation":	Not applicable	

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:

Hazardous Air Pollutants

None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

New Jersey Right-to-Know List:

None of the ingredients are listed.

Pennsylvania Right-to-Know List:

None of the ingredients are listed.

Cancerogenity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value)

None of the ingredients are listed.

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Trade name: Assay Buffer

(Contd. of page 6)

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

None of the ingredients are listed.

GHS label elements Not applicable Signal word Not applicable Hazard statements Not applicable Chemical safety assessment

Water hazard class: Generally not hazardous for water. *Chemical safety assessment:* A Chemical Safety Assessment has not been carried out.

16 Other information

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

Department issuing SDS:

Promega Corporation Chemical Regulatory Department 2800 Woods Hollow Road Madison, WI Ph:(608)274-4330 chemicalregulatory@promega.com Contact: **Date of preparation / last revision** 02/23/2023 Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit