

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-1358

Lumino™ Cell Viability Glow Assay

Size: 1000 assays



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : Cell Viability Glow Buffer

Product code : 140C
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue 63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

5.2. WIXLUIES			
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Deionized water	(CAS-No.) 7732-18-5	> 70.1695	Not classified
tris(hydroxymethyl)aminomethane	(CAS-No.) 77-86-1 (EC-No.) 201-064-4	10 - 50	Not classified
glycerol	(CAS-No.) 56-81-5 (EC-No.) 200-289-5	10 - 50	Not classified
Neutralizer	(CAS-No.) 10016-20-3 (EC-No.) 233-007-4	5 - 10	Not classified
Nonidet P-40 Substitute	(CAS-No.) 9016-45-9 (EC-No.) 500-024-6	0.5 - 2	Aquatic Chronic 4, H413
1,4-dithiothreitol	(CAS-No.) 3483-12-3 (EC-No.) 222-468-7	0.5 - 2	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
DTAB	(CAS-No.) 1119-94-4 (EC-No.) 214-290-3	0.5 - 2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

EN (English) 1/8

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

disodium dihydrogen ethylenediaminetetraacetate, dihydrate	(CAS-No.) 6381-92-6 (EC-No.) 205-358-3	< 0.4	Not classified
calcium chloride, dihydrate	(CAS-No.) 10035-04-8 (EC-No.) 233-140-8 (EC Index-No.) 017-013-00-2	0.05 - 0.5	Eye Irrit. 2, H319
Magnesium chloride	(CAS-No.) 7791-18-6	< 0.05	Not classified

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

: Water spray. Dry powder. Foam. Carbon dioxide. Suitable extinguishing media

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

glycerol (56-81-5)

United Kingdom - Occupational Exposure Limits

WEL TWA (mg/m³) 10 mg/m³

> EN (English) 2/8

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : No data available Odour : No data available Odour threshold No data available : No data available Relative evaporation rate (butylacetate=1) : No data available Melting point : Not applicable : No data available Freezing point Boiling point : No data available Flash point : No data available : No data available Auto-ignition temperature Decomposition temperature : No data available Flammability (solid, gas) : Not applicable Vapour pressure : No data available Relative vapour density at 20 °C No data available Relative density : No data available Solubility : No data available Log Pow · No data available Viscosity, kinematic : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Viscosity, dynamic

Explosive limits

Explosive properties Oxidising properties

The product is non-reactive under normal conditions of use, storage and transport.

: No data available : No data available

: No data available

: No data available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

EN (English) 3/8

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 11: Toxicological information
--

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified : Not classified Acute toxicity (dermal) Acute toxicity (inhalation) : Not classified

tris(hydroxymethyl)aminomethane (77-86-1)	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)

1,4-dithiothreitol (3483-12-3)	
LD50 oral rat	400 mg/kg (Rat, Oral)

Magnesium chloride (7791-18-6)	
LD50 oral rat	8100 mg/kg (Rat, Oral)

calcium chloride, dihydrate (10035-04-8)	
LD50 oral rat	2301 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 5000 mg/kg bodyweight (Other, 24 h, Rabbit, Male / female, Experimental value, Dermal)

disodium dihydrogen ethylenediaminetetraac	etate, dihydrate (6381-92-6)
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)

glycerol (56-81-5)	
LD50 oral rat	27200 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Female, Experimental value, Oral)
LD50 dermal	56750 mg/kg (4 day(s), Guinea pig, Male / female, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	> 2.75 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male, Converted value, Inhalation (vapours))

Nonidet P-40 Substitute (9016-45-9)	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term

adverse effects in the environment.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

> EN (English) 4/8

Cell Viability Glow Buffer Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

tris(hydroxymethyl)aminomethane (77-86-1)	
EC50 Daphnia 1	> 980 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h algae (1)	397 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

Magnesium chloride (7791-18-6)	
LC50 fish 1	16500 mg/l (96 h, Gambusia affinis, Anhydrous form)
EC50 Daphnia 1	3190 mg/l (24 h, Daphnia magna, Anhydrous form)
EC50 72h algae (1)	2200 mg/l (Scenedesmus subspicatus, Anhydrous form)

calcium chloride, dihydrate (10035-04-8)	
LC50 fish 1	10650 mg/l (96 h, Lepomis macrochirus, Literature study, Anhydrous form)
EC50 Daphnia 1	144 mg/l (48 h, Daphnia magna, Literature study, Anhydrous form)

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)	
LC50 fish 1	320 mg/l (LC50; 96 h)
EC50 Daphnia 1	> 100 mg/l (EC50; 24 h)

glycerol (56-81-5)	
LC50 fish 1	54000 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Lethal)
EC50 Daphnia 1	> 10000 mg/l (24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
12.2. Persistence and degradability	
tris(hydroxymethyl)aminomethane (77-86-1)	
Persistence and degradability	Readily biodegradable in water.

1,4-dithiothreitol (3483-12-3)	
Persistence and degradability	Biodegradability in water: no data available.

Magnesium chloride (7791-18-6)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

calcium chloride, dihydrate (10035-04-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.01 g O ₂ /g substance

glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.87 g O ₂ /g substance

EN (English) 5/8

Cell Viability Glow Buffer Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Chemical oxygen demand (COD)	1.16 g O ₂ /g substance
ThOD	1.217 g O₂/g substance
BOD (% of ThOD)	0.71

Neutralizer (10016-20-3)	
Persistence and degradability	Biodegradability in water: no data available.

DTAB (1119-94-4)		
Persistence and degradability	Biodegradability in water: no data available.	
12.3. Bioaccumulative potential		
tris(hydroxymethyl)aminomethane (77-86-1)		
Log Pow	-2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)	
Bioaccumulative potential	Not bioaccumulative.	

1,4-dithiothreitol (3483-12-3)	
Bioaccumulative potential	No bioaccumulation data available.

Magnesium chloride (7791-18-6)	
Bioaccumulative potential	No bioaccumulation data available.

calcium chloride, dihydrate (10035-04-8)	
Bioaccumulative potential	Not bioaccumulative.

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)			
Bioaccumulative potential No bioaccumulation data available.			

glycerol (56-81-5)		
Log Pow	-1.75 (Experimental value, Equivalent or similar to OECD 107, 25 °C)	
Bioaccumulative potential	Not bioaccumulative.	

Neutralizer (10016-20-3)		
	Bioaccumulative potential	No bioaccumulation data available.

DTAB (1119-94-4)		
Bioaccumulative potential No bioaccumulation data available.		
12.4. Mobility in soil		
tris(hydroxymethyl)aminomethane (77-86-1)		
Log Koc 1.87 (log Koc, QSAR)		
Ecology - soil Highly mobile in soil.		

calcium chloride, dihydrate (10035-04-8)		
Ecology - soil	No (test)data on mobility of the substance available.	

glycerol (56-81-5)	
Surface tension	0.0634 N/m (20 °C, 1000 g/l)
Ecology - soil	No (test)data on mobility of the substance available.

EN (English) 6/8

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.5. Results of PBT and vPvB assessment		
Component		
tris(hydroxymethyl)aminomethane (77-86-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
glycerol (56-81-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

EN (English) 7/8

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Substances subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals: Nonylphenol ethoxylates (C2H4O)nC15H24O (9016-45-9) (CAS Number).

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:		
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4	
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	
H302	Harmful if swallowed.	
H315	Causes skin irritation.	
H319	Causes serious eye irritation.	
H335	May cause respiratory irritation.	
H413	May cause long lasting harmful effects to aquatic life.	
EUH210	Safety data sheet available on request.	

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

EN (English) 8/8



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : Cell Viability Glow Substrate

Product code : 141C
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue 63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	
United Kingdom	National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315 Serious eye damage/eye irritation, Category 2 H319

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation.

EN (English) 1/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS07

CLP Signal word : Warning

Hazard statements (CLP) : H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

P321 - Specific treatment (see supplemental first aid instruction on this label).

P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
D-Luciferin Firefly, potassium salt	(CAS-No.) 115144-35-9	>= 80	Not classified
luciferase	(CAS-No.) 61970-00-1 (EC-No.) 263-359-4	10 - 50	Skin Irrit. 2, H315 Eye Irrit. 2, H319

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get

medical advice/attention.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

EN (English) 2/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear

personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this

product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

Relative vapour density at 20 °C

Relative density

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Colour : No data available Odour No data available Odour threshold : No data available : No data available pН Relative evaporation rate (butylacetate=1) : No data available Melting point : No data available Freezing point : Not applicable Boiling point : No data available Flash point : Not applicable Auto-ignition temperature : Not applicable Decomposition temperature : No data available Flammability (solid, gas) · Non flammable Vapour pressure No data available

: No data available

: Not applicable

EN (English) 3/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Solubility : No data available
Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term

adverse effects in the environment.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability

luciferase (61970-00-1)

Persistence and degradability Biodegradability in water: no data available.

12.3. Bioaccumulative potential

luciferase (61970-00-1)

Bioaccumulative potential No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

EN (English) 4/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

EN (English) 5/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:		
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
H315	Causes skin irritation.	
H319	Causes serious eye irritation.	

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

EN (English) 6/6



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : ATP [lyophilized]
CAS-No. : 51963-61-2
Product code : 300A

Type of product : Pure substance

Synonyms : adenosine 5'-(tetrahydrogen triphosphate), disodium salt, trihydrate / adenosine 5'-

triphosphate, disodium salt, trihydrate / disodium adenosine 5'-triphosphate trihydrate

Product group : Raw material BIG No : 32935

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue

63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier		Classification according to Regulation (EC) No. 1272/2008 [CLP]
ATP [lyophilized]	(CAS-No.) 51963-61-2	100	Not classified

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

EN (English) 1/6

[:] Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

First-aid measures after inhalation · Remove the victim into fresh air

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Soap may be used.

: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present First-aid measures after eye contact

and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists. Do

not apply neutralizing agents.

First-aid measures after ingestion : Rinse mouth with water. Ingestion of large quantities: immediately to hospital. Call Poison

Information Centre (www.big.be/antigif.htm).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Coughing.

Symptoms/effects after eye contact · Slight irritation

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Irritation of the gastric/intestinal mucosa.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting

extinguisher, reel). Water. Class A foam.

: Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher. Unsuitable extinguishing media

5.2. Special hazards arising from the substance or mixture

: DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION Explosion hazard

HAZARD: Dust cloud can be ignited by a spark.

: On burning: release of toxic and corrosive gases/vapours (carbon monoxide - carbon Hazardous decomposition products in case of fire

dioxide, phosphorus oxides, phosphine, nitrogen).

5.3. Advice for firefighters

: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure Precautionary measures fire

to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Dilute toxic gases with water spray.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

: Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Protective equipment **Emergency procedures**

: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors

and windows. In case of dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosionproof appliances/lighting

equipment.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment Contain released product, pump into suitable containers. Plug the leak, cut off the supply.

Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for

pumping over spills

Methods for cleaning up : Prevent dust cloud formation. Scoop solid spill into closing containers. Powdered: do not

use compressed air for pumping over spills. Clean contaminated surfaces with an excess

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry

operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Powdered form: no compressed air for pumping over. Keep container tightly closed.

: Observe normal hygiene standards. Hygiene measures

> EN (English) 2/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

Storage temperature : -20 °C

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents.

Storage area : Store in a cool area. Store in a dry area. Provide for a cooling system. Meet the legal

requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing, correctly labelled, meet the legal requirements.

Secure fragile packagings in solid containers.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Gloves

Eye protection:

Safety glasses. In case of dust production: protective goggles

Skin and body protection:

Protective clothing

Physical state

Respiratory protection:

Dust formation: dust mask

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

: Solid

Appearance : Solid. Powder.

Molecular mass : 605.15 g/mol

Colour : White.

Odour : Odourless.

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point · 188 °C Freezing point : Not applicable Boiling point : No data available Flash point : Not applicable Auto-ignition temperature : Not applicable Decomposition temperature : No data available Flammability (solid, gas) : Non flammable. Vapour pressure : No data available Relative vapour density at 20 °C : Not applicable Relative density : Not applicable Solubility : Soluble in water.

Water: soluble, Literature

Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available

EN (English) 3/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Explosive limits : Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ATP [lyophilized] (51963-61-2)

LD50 oral rat > 2000 mg/kg (Rat, Oral)

Skin corrosion/irritation : Not classified Serious eye damage/irritation : Not classified Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified STOT-single exposure : Not classified STOT-repeated exposure : Not classified Aspiration hazard : Not classified

Potential adverse human health effects and : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Slightly harmful in contact

symptoms with skin. Not irritant to skin. Slightly harmful by inhalation. Slightly irritant to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC)

No 1272/2008.

Ecology - water : Mild water pollutant (surface water). No data available on ecotoxicity.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability

ATP [lyophilized] (51963-61-2)

Persistence and degradability Biodegradability in water: no data available.

12.3. Bioaccumulative potential

ATP [lyophilized] (51963-61-2)

Bioaccumulative potential No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

EN (English) 4/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

Product/Packaging disposal recommendations : Remove to an authorized waste treatment plant.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as

amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

European List of Waste (LoW) code : 16 03 06 - organic wastes other than those mentioned in 16 03 05

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

EN (English) 5/6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

ATP [lyophilized] is not on the REACH Candidate List

ATP [lyophilized] is not on the REACH Annex XIV List

ATP [lyophilized] is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

ATP [lyophilized] is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

15.1.2. National regulations

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

EN (English) 6/6