# Safety Data Sheet 

# Lumino ${ }^{\text {TM }}$ ATP Detection Assay 

Size: 50 assays

## ATP [Iyophilized]

Safety Data Sheet<br>according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations<br>Date of issue: 01/17/2018 Version: 1.1

## SECTION 1: Identification

1.1. Identification

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

BIG No
: adenosine 5'-(tetrahydrogen triphosphate), disodiurn salt, trihydrate / adenosine 5'triphosphate, disodium salt, trihydrate / disodium adenosine 5'-triphosphate trihydrate 32935
1.2. Recommended use and restrictions on use

No additional information available
1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429-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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Not classified
2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable
2.3. Other hazards which do not result in classification

No additional information available
2.4. Unknown acute toxicity (GHS US)

Not applicable
SECTION 3: Composition/Information on ingredients
3.1. Substances

Substance type : Mono-constituent

| Name | Common Name (Synonyms) | Product identifier | \% | GHS US classification |
| :--- | :--- | :--- | :--- | :--- |
| ATP [lyophilized] <br> (Main constituent) | adenosine 5'-(tetrahydrogen <br> triphosphate), disodiurn salt, <br> trihydrate / adenosine 5'- <br> triphosphate, disodium salt, <br> trihydrate / disodium adenosine 5'- <br> triphosphate trihydrate | (CAS-No.) 51963-61-2 | 100 | Not classified |

Full text of hazard classes and H -statements : see section 16
3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general

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.

## ATP [lyophilized]

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| 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. |
| First-aid measures after eye contact | Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present 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 (acute and delayed) |  |
| Potential Adverse human health effects and symptoms | Practically non-toxic if swallowed (LD50 oral, rat > $2000 \mathrm{mg} / \mathrm{kg}$ ). Slightly harmful in contact with skin. Not irritant to skin. Slightly harmful by inhalation. Slightly irritant to eyes. |
| 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. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| Suitable extinguishing media | : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting |
| :--- | :--- |
| extinguisher, reel). Water. Class A foam. |  |
| Unsuitable extinguishing media | : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher. |

5.2. Specific hazards arising from the chemical

Explosion hazard : DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION
HAZARD: Dust cloud can be ignited by a spark.

| 5.3. Special protective equipment and precautions for fire-fighters |  |
| :--- | :--- |
| Precautionary measures fire | : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure 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. |

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

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

## Protective equipment

Emergency procedures
Measures in case of dust release
: Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.
: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.
: 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

### 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
Other information
: 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 of water.
6.4. Reference to other sections

For further information refer to section 13.

## ATP [lyophilized]

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

## 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.
Hygiene measures
: Observe normal hygiene standards.
7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Storage temperature $:-20^{\circ} \mathrm{C}$
Heat-ignition
: 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.

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters

## ATP [lyophilized] (51963-61-2) <br> No additional information available

### 8.2. Appropriate engineering controls

| Appropriate engineering controls | : Ensure good ventilation of the work station. |
| :--- | :--- |
| Environmental exposure controls | : Avoid release to the environment. |

### 8.3. Individual protection measures/Personal protective equipment

## Hand protection:

## Gloves

## Eye protection:

Safety glasses. In case of dust production: protective goggles

## Skin and body protection:

Protective clothing

## Respiratory protection:

Dust formation: dust mask

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Solid. Powder.
Color : White
Odor : Odourless
Odor threshold : No data available
$\mathrm{pH} \quad$ : No data available
Melting point : $188^{\circ} \mathrm{C}$
Freezing point : Not applicable
Boiling point : No data available
Flash point
: Not applicable
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas)
: Non flammable.

## ATP [lyophilized]

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Vapor pressure | : No data available |
| :--- | :--- |
| Relative vapor density at $20^{\circ} \mathrm{C}$ | : Not applicable |
| Relative density | : Not applicable |
| Molecular mass | : 605.15 g/mol |
| Solubility | Soluble in water. |
|  | Water: soluble, Literature |
| Log Pow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : Not applicable |
| Explosion limits | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties |  |
| O.2. $\quad$ Other information |  |
| No additional information available |  |
| SECTION 10: Stability and reactivity |  |
| 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 | > $2000 \mathrm{mg} / \mathrm{kg}$ (Rat, Oral) |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity - single exposure | : Not classified |
| Specific target organ toxicity - repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Viscosity, kinematic | : No data available |
| Potential Adverse human health effects and symptoms | Practically non-toxic if swallowed (LD50 oral, rat > $2000 \mathrm{mg} / \mathrm{kg}$ ). Slightly harmful in contact with skin. Not irritant to skin. Slightly harmful by inhalation. Slightly irritant to eyes. |
| 06/28/2019 | EN (English US) 4/6 |

## ATP [lyophilized]

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/effects after inhalation
Symptoms/effects after eye contact
Symptoms/effects after ingestion

AFTER INHALATION OF DUST/MIST: Coughing.
Slight irritation.
AFTER INGESTION OF HIGH QUANTITIES: Irritation of the gastric/intestinal mucosa.

## 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.
12.2. Persistence and degradability

ATP [lyophilized] (51963-61-2)
Persistence and degradability $\quad$ 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. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods
Product/Packaging disposal recommendations
Additional information
: Waste treatment methods.
: Remove to an authorized waste treatment plant.
: 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.

## SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not applicable
Transportation of Dangerous Goods
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

## ATP [Iyophilized] (51963-61-2)

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

### 15.2. International regulations

## CANADA

## ATP [Iyophilized]

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

## ATP [lyophilized] (51963-61-2)

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

National regulations
No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

## NFPA health hazard

NFPA fire hazard

NFPA reactivity
: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
: 1-Materials that must be preheated before ignition can occur.
: 0 - Material that in themselves are normally stable, even under fire conditions.


SDS US (GHS HazCom 2012)
 guaranteeing any specific property of the product.

## ATP Detection Buffer

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

## SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name
: ATP Detection Buffer
Product code
: 301A
1.2. Recommended use and restrictions on use

No additional information available
1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - 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: Hazard(s) identification
2.1. Classification of the substance or mixture

GHS US classification
Not classified
2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable
2.3. Other hazards which do not result in classification

No additional information available
2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable
3.2. Mixtures

| Name | Common Name (Synonyms) | Product identifier | \% | GHS US classification |
| :---: | :---: | :---: | :---: | :---: |
| 1,4-dithiothreitol | ( $\mathrm{R}^{*}, \mathrm{R}^{*}$ )-1,4-dimercapto-2,3butanediol / (R,R)-1,4-dimercapto-2,3-butanediol / (R,R)-dithiothreitol / 1,4-dimercapto-2,3butanediol, $\left(\mathrm{R}^{*}, \mathrm{R}^{*}\right)$ - / 1,4-dithiothreitol,D-/ 2,3-butanediol, 1,4-dimercapto-, ( $R^{*}, R^{*}$ )- / 2,3butanediol, 1,4-dimercapto-, (theta, theta)- / 2,3-butanediol, 1,4-dimercapto-, D-threo- / cleland's reagent / D-1,4-dithiothreitol / dithiothreitol / D-threo-1,4-dimercapto-2,3-butanediol / DTT / sputolysin / threitol, 1,4-dithio- / threo-1,4-dimercapto-2,3butanediol / threo-1,4-dimercapto-2,3-butanediol,D-/ threo-2,3-dihydroxy-1,4-dithiolbutane / WR 34678 | (CAS-No.) 3483-12-3 | 0.5-2 | Acute Tox. 4 (Oral), H302 <br> Skin Irrit. 2, H315 <br> Eye Irrit. 2, H319 <br> STOT SE 3, H335 |
| calcium chloride, dihydrate | cal plus (=calcium chloride, dihydrate) / calcium chloride, dihydrate / calcium chloride-2hydrate / calcium dicloride, dihydrate / replenisher(calcium) / sinjarite | (CAS-No.) 10035-04-8 | 0.05-0.5 | Eye Irrit. 2, H319 |

## ATP Detection Buffer

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Full text of hazard classes and H -statements : see section 16

## SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation
First-aid measures after skin contact
First-aid measures after eye contact
First-aid measures after ingestion
: Remove person to fresh air and keep comfortable for breathing.
: Wash skin with plenty of water.
: Rinse eyes with water as a precaution.
: Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available
4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards arising from the chemical

No additional information available
5.3. Special protective equipment and precautions for fire-fighters

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
6.1.2. For emergency responders

Protective equipment
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.

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters

## ATP Detection Buffer

No additional information available
1,4-dithiothreitol (3483-12-3)
No additional information available

## ATP Detection Buffer

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

```
calcium chloride, dihydrate (10035-04-8)
No additional information available
8.2. Appropriate engineering controls
\begin{tabular}{ll} 
Appropriate engineering controls & : Ensure good ventilation of the work station. \\
Environmental exposure controls & : Avoid release to the environment.
\end{tabular}
```


### 8.3. Individual protection measures/Personal protective equipment

## 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

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state : Liquid
Color : No data available

Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at $20^{\circ} \mathrm{C}$ : No data available
Relative density : No data available
Solubility : No data available
Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available

### 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.

## ATP Detection Buffer

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 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 |
| 1,4-dithiothreitol (3483-12-3) |  |
| LD50 oral rat | $400 \mathrm{mg} / \mathrm{kg}$ (Rat, Oral) |
| ATE US (oral) | $400 \mathrm{mg} / \mathrm{kg}$ body weight |
| calcium chloride, dihydrate (10035-04-8) |  |
| LD50 oral rat | 2301 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral) |
| LD50 dermal rabbit | $>5000 \mathrm{mg} / \mathrm{kg}$ body weight (Other, 24 h, Rabbit, Male / female, Experimental value, Dermal) |
| ATE US (oral) | $2301 \mathrm{mg} / \mathrm{kg}$ body weight |
| Skin corrosion/irritation | Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity - single exposure | Not classified |


| 1,4-dithiothreitol (3483-12-3) |  |
| :--- | :--- |
| Specific target organ toxicity - single exposure | May cause respiratory irritation. |
| Specific target organ toxicity - repeated : Not classified <br> exposure  <br> Aspiration hazard : Not classified <br> Viscosity, kinematic : No data available |  |

## SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| calcium chloride, dihydrate (10035-04-8) |  |
| :--- | :--- |
| LC50 fish 1 | $10650 \mathrm{mg} / \mathrm{l}(96 \mathrm{~h}$, Lepomis macrochirus, Literature study, Anhydrous form) |
| EC50 Daphnia 1 | $144 \mathrm{mg} / \mathrm{l}(48 \mathrm{~h}$, Daphnia magna, Literature study, Anhydrous form) |

12.2. Persistence and degradability

| 1,4-dithiothreitol (3483-12-3) | Biodegradability in water: no data available. |
| :--- | :--- |
| Persistence and degradability |  |
| calcium chloride, dihydrate (10035-04-8) |  |
| Persistence and degradability | Biodegradability: not applicable. |

## ATP Detection Buffer

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| calcium chloride, dihydrate (10035-04-8) |  |
| :--- | :--- |
| Chemical oxygen demand (COD) | Not applicable (inorganic) |
| ThOD | Not applicable (inorganic) |

12.3. Bioaccumulative potential

| 1,4-dithiothreitol (3483-12-3) |  |
| :--- | :--- |
| Bioaccumulative potential | No bioaccumulation data available. |
| calcium chloride, dihydrate (10035-04-8) | Not bioaccumulative. |
| Bioaccumulative potential |  |

### 12.4. Mobility in soil

## calcium chloride, dihydrate (10035-04-8)

| Ecology - soil | No (test)data on mobility of the substance available. |
| :--- | :--- |

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods
: Waste treatment methods.

## SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not applicable
Transportation of Dangerous Goods
Not applicable
Transport by sea
Not applicable
Air transport
Not applicable

## SECTION 15: Regulatory information

15.1. US Federal regulations

| 1,4-dithiothreitol (3483-12-3) |
| :--- |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |
| calcium chloride, dihydrate (10035-04-8) |
| Not listed on the United States TSCA (Toxic Substances Control Act) inventory |

15.2. International regulations

## CANADA

## 1,4-dithiothreitol (3483-12-3)

Listed on the Canadian DSL (Domestic Substances List)
calcium chloride, dihydrate (10035-04-8)
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)
EU-Regulations

## ATP Detection Buffer

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
National regulations
No additional information available
15.3. US State regulations

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Full text of H -phrases:

| H302 | Harmful if swallowed |
| :--- | :--- |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |

SDS US (GHS HazCom 2012)
 guaranteeing any specific property of the product.

## ATP Detection Substrate

Safety Data Sheet<br>according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations<br>Date of issue: 01/16/2018 Version: 1.1

| SECTION 1: Identification |  |
| :--- | :--- |
| 1.1. Identification | $:$ Mixture |
| Product form | $:$ ATP Detection Substrate |
| Product name | $: 302 A$ |
| Product code |  |

1.2. Recommended use and restrictions on use

No additional information available
1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429-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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Skin corrosion/irritation Category 2 H315 Causes skin irritation
Serious eye damage/eye irritation Category 2 H319 Causes serious eye irritation
Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US)

Signal word (GHS US)
Hazard statements (GHS US)
Precautionary statements (GHS US)

: Warning
: H315-Causes skin irritation
H319-Causes serious eye irritation
: 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 which do not result in classification

No additional information available
2.4. Unknown acute toxicity (GHS US)

Not applicable
SECTION 3: Composition/Information on ingredients
3.1. Substances

Not applicable
3.2. Mixtures

## ATP Detection Substrate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Name | Common Name (Synonyms) | Product identifier | \% | GHS US classification |
| :--- | :--- | :--- | :--- | :--- |
| luciferase | beetle luciferase / EC 1.13.12.7 / <br> firefly luciferase / firefly luciferin <br> luciferase / luciferase (firefly <br> luciferin) / photinus luciferin 4- <br> monooxygenase (adenosine <br> triphosphate-hydrolyzing) / <br> photinus pyralis luciferin | (CAS-No.) 61970-00-1 | $10-50$ | Skin Irrit. 2, H315 <br> Eye Irrit. 2, H319 |

Full text of hazard classes and H -statements : see section 16

## SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation
First-aid measures after skin contact
First-aid measures after eye contact

First-aid measures after ingestion
: Remove person to fresh air and keep comfortable for breathing.
: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
: 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.
: Call a poison center/doctor/physician if you feel unwell.

| 4.2. Most important symptoms and effects (acute and delayed) |  |
| :---: | :---: |
| Symptoms/effects after skin contact : Irritation. |  |
| Symptoms/effects after eye contact : Eye irritation. |  |
| 4.3. Immediate medical attention and special treatment, if necessary |  |
| Treat symptomatically. |  |
| SECTION 5: Fire-fighting measures |  |
| 5.1. Suitable (and unsuitable) extinguishing media |  |
| Suitable extinguishing media : Water spray. Dry powder. Foam. |  |
| 5.2. Specific hazards arising from the chemical |  |
| No additional information available |  |
| 5.3. Special protective equipment and precautions for fire-fighters |  |
| Protection during firefighting | Do not attempt to take action with apparatus. Complete protective |

## 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.

### 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
Hygiene measures
: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.

## ATP Detection Substrate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
7.2. Conditions for safe storage, including any incompatibilities

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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

## ATP Detection Substrate

No additional information available
luciferase (61970-00-1)
No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

## 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

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state : Solid
Color : No data available
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : Not applicable
Boiling point : No data available
Flash point : Not applicable
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Non flammable.
Vapor pressure : No data available
Relative vapor density at $20^{\circ} \mathrm{C}$ : No data available
Relative density : Not applicable
Solubility : No data available
Log Pow : No data available
Auto-ignition temperature : Not applicable
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : Not applicable
Explosive properties : No data available
Oxidizing properties : No data available

## ATP Detection Substrate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 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 sensitization | $:$ Not classified |
| Germ cell mutagenicity | $:$ Not classified |
| Carcinogenicity | $:$ Not classified |
| Reproductive toxicity | $:$ Not classified |
| Specific target organ toxicity - single exposure | $:$ Not classified |
| Specific target organ toxicity - repeated |  |
| exposure | $:$ No data available |
| Aspiration hazard | $:$ Irritation. |
| Viscosity, kinematic | $:$ Eye irritation. |
| Symptoms/effects after skin contact |  |

## SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
12.2. Persistence and degradability

| luciferase (61970-00-1) | Biodegradability in water: no data available. |
| :--- | :--- |
| Persistence and degradability |  |

12.3. Bioaccumulative potential

| luciferase (61970-00-1) |  |
| :--- | :--- |
| Bioaccumulative potential | No bioaccumulation data available. |

### 12.4. Mobility in soil

No additional information available

## ATP Detection Substrate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations
13.1. Disposal methods

Waste treatment methods
: Waste treatment methods.

## SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not applicable
Transportation of Dangerous Goods
Not applicable
Transport by sea
Not applicable
Air transport
Not applicable

## SECTION 15: Regulatory information

15.1. US Federal regulations

| luciferase (61970-00-1) |  |
| :--- | :--- |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |  |
| EPA TSCA Regulatory Flag | XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting <br> Rule, (40 CFR 711). |

15.2. International regulations

## CANADA

## ATP Detection Substrate

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)
luciferase (61970-00-1)
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)
EU-Regulations

## National regulations

No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Full text of H -phrases:

| H315 | Causes skin irritation |
| :--- | :--- |
| H319 | Causes serious eye irritation |

## ATP Detection Substrate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SDS US (GHS HazCom 2012)
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.

# ATP Free Water 

Safety Data Sheet<br>according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations<br>Date of issue: 01/17/2018 Version: 1.1

## SECTION 1: Identification

1.1. Identification

Product form
: Substance
Substance name
: ATP Free Water
CAS-No.
: 7732-18-5
Product code
1.2. Recommended use and restrictions on use

No additional information available
1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429-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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Not classified
2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable
2.3. Other hazards which do not result in classification

No additional information available
2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

3.1. Substances
Name : ATP Free Water

CAS-No. : 7732-18-5
Full text of hazard classes and H -statements : see section 16
3.2. Mixtures

Not applicable

## 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/doctor/physician if you feel unwell.
4.2. Most important symptoms and effects (acute and delayed)

No additional information available
4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

## ATP Free Water

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
5.2. Specific hazards arising from the chemical

No additional information available
5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting $\quad$| : 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.

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters

## ATP Free Water (7732-18-5)

No additional information available

### 8.2. Appropriate engineering controls <br> Appropriate engineering controls <br> Environmental exposure controls <br> : Ensure good ventilation of the work station. <br> : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

## 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

## ATP Free Water

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

## SECTION 9: Physical and chemical properties

| Information on basic physical and chemical properties |  |
| :---: | :---: |
| Physical state | Liquid |
| Color | No data available |
| Odor | No data available |
| Odor threshold | No data available |
| pH | No data available |
| Melting point | Not applicable |
| Freezing point | No data available |
| Boiling point | No data available |
| Flash point | No data available |
| Relative evaporation rate (butyl acetate=1) | No data available |
| Flammability (solid, gas) | Not applicable. |
| Vapor pressure | No data available |
| Relative vapor density at $20^{\circ} \mathrm{C}$ | No data available |
| Relative density | No data available |
| Solubility | No data available |
| Log Pow | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity, kinematic | No data available |
| Viscosity, dynamic | No data available |
| Explosion limits | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |

### 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)
Acute toxicity (dermal)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified

## ATP Free Water

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Carcinogenicity | : Not classified |
| :---: | :---: |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity - single exposure | : Not classified |
| Specific target organ toxicity - repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Viscosity, kinematic | : No data available |
| SECTION 12: Ecological information |  |
| 12.1. Toxicity |  |
| Ecology - general | The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. |
| 12.2. Persistence and degradability |  |
| No additional information available |  |
| 12.3. Bioaccumulative potential |  |
| No additional information available |  |
| 12.4. Mobility in soil |  |
| No additional information available |  |
| 12.5. Other adverse effects |  |
| No additional information available |  |

## SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

## SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not applicable
Transportation of Dangerous Goods
Not applicable
Transport by sea
Not applicable
Air transport
Not applicable

## SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

### 15.2. International regulations

## CANADA

## EU-Regulations

## ATP Free Water

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
National regulations
No additional information available
15.3. US State regulations

SECTION 16: Other information
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SDS US (GHS HazCom 2012)
 guaranteeing any specific property of the product.

