

Safety data sheet
according to 1907/2006/EC, Article 31
ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

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

1.1 Product identifier

Trade name:

ATP Substrate

Article number:

51-101, 52-201

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

Reagent for analysis

For additional information on uses please refer to the BioThema AB website (<https://biothema.com>) or e-mail us at support@biothema.com

1.3 Details of the supplier of the safety data sheet

Biothema AB

Handens stationsväg 17

136 40 Handen

Sweden

+46 (0)8 7770020

Email address: support@biothema.com

MSDS author: BioThema AB

1.4 Emergency telephone number

Emergency telephone #: 112

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, oral Category 4, H302

Chronic aquatic toxicity Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

The product is classified and labelled according to the CLP regulation.

Pictograms:



Signal Word: Warning

Hazard statement(s)

H302

Harmful if swallowed

H412

Harmful to aquatic life with long lasting effects

Precautionary statement(s)

P264, P270, P273, P301 + P312 + P330, P501 Wash skin thoroughly after handling, Do not eat, drink or smoke when using this product, Avoid release to the environment, IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth, Dispose of contents/container to an approved waste disposal plant.

Safety data sheet

according to 1907/2006/EC, Article 31

ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

2.3 Other Hazards*None known**Results of PBT and vPvB assessment in accordance with Annex XIII of (EC) No 1907/2006:**This mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.***SECTION 3: Composition/information on ingredients****3.1 Substances***Not applicable***3.2 Mixtures***Solid. No disclosure requirement according to Regulation (EC) No 1272/2008*

EC	CAS	Chemical name	Percent

SECTION 4: First aid measures**4.1 Description of first aid measures***Personal protective equipment for first aid responders is not required.**No immediate medical attention required.**After inhalation: Supply fresh air; consult doctor in case of complaints.**After skin contact: The product might cause skin irritation; good practice is to remove contaminated clothing and rinse skin with water.**After eye contact: Rinse opened eye for several minutes under running water as a precaution. Remove contact lenses.**After ingestion: Drink water (two glasses at most). Consult doctor if feeling unwell.**If these recommendations are not followed the exposed person could experience a delayed eye irritation and skin irritation.***4.2 Most important symptoms and effects, both acute and delayed***May cause irritation. We have no further description of any symptoms.***4.3 Indication of any immediate medical attention and special treatment needed***No information available.***SECTION 5: Firefighting measures****5.1 Extinguishing media***Suitable extinguishing media:*

Safety data sheet
according to 1907/2006/EC, Article 31
ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use extinguishing media that is appropriate to the local surrounding environment and circumstance.

Unsuitable extinguishing media:

For this product no limitations of extinguishing media are given.

5.2 Special hazards arising from the substance or mixture:

No data available

5.3 Advice for firefighters:

Wear protective clothing for firefighters. Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel:

Wear suitable protective equipment as specified in SECTION 8

Advice for emergency personnel:

Wear suitable protective equipment as specified in SECTION 8

6.2 Environmental precautions

Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up

Sweep up/absorb with any liquid-binding material and dispose according to section 13.

6.4 Reference to other sections

See section 7 for safe handling

See section 13 for disposal information

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Advice on safe handling:

No special measures required

Advice on hygiene measures:

Good practice is to wash hands before and after working with this mixture. Change contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:

Keep product fully closed

See product label for recommended storage temperature

7.3 Specified end use(s)

See subsection 1.2.

SECTION 8: Exposure controls/personal protection

Safety data sheet

according to 1907/2006/EC, Article 31

ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

8.1 Control parameters*Components with workplace control parameters:**None***8.2 Exposure controls***Engineering controls:**General industrial hygiene practice.*

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures:

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Considerations to specific work environment where the product is used should be made.

Eye/face protection:

Safety glasses tested and approved under standards such as EN 166(EU).

Skin protection:

Wear appropriate chemical resistant gloves. We recommend single use vinyl gloves. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Wear lab coat or suitable protective clothing.

Respiratory protection:

Not required normally. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards:

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

No special precautionary measures necessary.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

<i>State of matter:</i>	<i>Solid</i>
<i>Form:</i>	<i>Powder</i>
<i>Colour:</i>	<i>White to pale yellow</i>
<i>Odour:</i>	<i>Odourless</i>
<i>Odour threshold:</i>	<i>No information available. Odourless</i>
<i>pH:</i>	<i>6-8 at 20 °C (68 °F)</i>
<i>Melting point/freezing point:</i>	<i>No information available. Not determined.</i>
<i>Initial boiling point and boiling range:</i>	<i>No information available. Not determined.</i>
<i>Flash point:</i>	<i>Not applicable. Not flammable.</i>
<i>Evaporation rate:</i>	<i>No information available. Not determined.</i>
<i>Flammability (solid, gas):</i>	<i>Not applicable. Not flammable.</i>
<i>Upper/lower flammability or explosive limits:</i>	<i>Not applicable. Not flammable.</i>

Safety data sheet

according to 1907/2006/EC, Article 31

ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

Vapour pressure:	No information available. Not determined.
Vapour density:	No information available. Not determined.
Relative density:	No information available. Not determined.
Solubility(ies):	Fully miscible in water
Partition coefficient: n-octanol/water:	No information available. Not determined.
Auto-ignition temperature:	Not applicable. Not flammable.
Decomposition temperature:	No information available. Not determined.
Viscosity:	No information available. Not determined.
Explosive properties:	Not classified as explosive.
Oxidising properties:	None

9.2. Other Information

No relevant additional information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Contact with incompatible materials. Do not heat closed container. Do not pressurize container.

10.5 Incompatible materials

Strong oxidising or reducing agents. Strong acids or strong bases.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

General information

Occupational exposure to the substance or mixture may cause adverse effects.

Handle in accordance with good industrial hygiene and safety practice.

Information on likely routes of exposure

Ingestion: May cause discomfort if swallowed.

Inhalation: Prolonged inhalation may be harmful.

Skin exposure: Prolonged contact with skin may cause temporary irritation.

Eye exposure: Direct contact with eyes may cause temporary irritation.

Symptoms: Exposure may cause temporary irritation, redness, or discomfort.

acute toxicity	Due to partial or complete lack of data the classification is not possible
skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible
serious eye damage/irritation	Due to partial or complete lack of data the classification is not possible
respiratory or skin sensitisation	Due to partial or complete lack of data the classification is not possible
germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible

Safety data sheet

according to 1907/2006/EC, Article 31

ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

carcinogenicity	Due to partial or complete lack of data the classification is not possible
reproductive toxicity	Due to partial or complete lack of data the classification is not possible
STOT-single exposure	Due to partial or complete lack of data the classification is not possible
STOT-repeated exposure	Due to partial or complete lack of data the classification is not possible
aspiration hazard	Due to partial or complete lack of data the classification is not possible

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)

No data available

n-octanol/water (log K_{ow})

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This product does not contain a PBT or vPvB or substances.

12.6 Other adverse effects

This product may effect the pH in aquatic environment and risk adverse effect on water organisms. See pH specification under subsection 9.1.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Residual waste

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues.

This material and its container must be disposed of in a safe manner.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Special precautions

Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

14.1 UN number

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

Safety data sheet
according to 1907/2006/EC, Article 31
ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

14.2 UN proper shipping name*ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***14.3 Transport hazard class(es)***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***14.4 Packaging group***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***14.5 Environmental hazards***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***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****EU Regulations**

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
Not listed.

Safety data sheet

according to 1907/2006/EC, Article 31

ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations Regulation

(EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding
Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances
Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
Not listed.

Directive 94/33/EC on the protection of young people at work
Not listed.

Other regulations

The product is classified and labelled in accordance with EG 1272/2008 (CLP regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended.

National regulations

Follow national regulation for work with chemical agents.

SECTION 16: Other information

List of abbreviations

CLP: Classification, Labelling and Packaging
AND: Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
Marpol: International Convention for the Prevention of Pollution from Ships
PBT: Persistent, bioaccumulative and toxic
vPvB: Very persistent and very bioaccumulative

References

ACGIH's documentation of the Threshold Limit Values and Biological Exposure Indices
EPA (Environmental Protection Agency)

Safety data sheet
according to 1907/2006/EC, Article 31
ATP Substrate

Revision: 30.01.2019

Supersedes version issued: 15.10.2009

HSDB®-Hazardous Substances Data Bank

IARC- monographs on the carcinogenic risks to humans

National toxicology program(NTP) report on carcinogen

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

None.

Training information

Follow training instructions when handling this material.

This revision is updated to comply with the latest regulations of (EC) No 1907/2006. No changes have been made in classification of the product.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. It characterises the product with regard to the appropriate safety precautions.

Safety data sheet
according to 1907/2006/EC, Article 31
Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

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

1.1 Product identifier

Trade name:

Luciferin Substrate

Article number:

61-101

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

Reagent for analysis

For additional information on uses please refer to the BioThema AB website (<https://biothema.com>) or e-mail us at support@biothema.com

1.3 Details of the supplier of the safety data sheet

Biothema AB

Handens stationsväg 17

136 40 Handen

Sweden

+46 (0)8 7770020

Email address: support@biothema.com

MSDS author: BioThema AB

1.4 Emergency telephone number

Emergency telephone #: 112

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This mixture is not classified as dangerous according to Regulation (EC) No 1272/2008.

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008.

The product is classified and labelled according to the CLP regulation.

Pictograms: Void

Signal Word: Void

Hazard statement(s)

Void

Precautionary statement(s)

Void

2.3 Other Hazards

None known

Results of PBT and vPvB assessment in accordance with Annex XIII of (EC) No 1907/2006:

This mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Safety data sheet
according to 1907/2006/EC, Article 31
Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

SECTION 3: Composition/information on ingredients**3.1 Substances***Not applicable***3.2 Mixtures***Solid. No disclosure requirement according to Regulation (EC) No 1272/2008*

EC	CAS	Chemical name	Percent

SECTION 4: First aid measures**4.1 Description of first aid measures***Personal protective equipment for first aid responders is not required.**No immediate medical attention required.**After inhalation: Supply fresh air; consult doctor in case of complaints.**After skin contact: The product might cause skin irritation; good practice is to remove contaminated clothing and rinse skin with water.**After eye contact: Rinse opened eye for several minutes under running water as a precaution. Remove contact lenses.**After ingestion: Drink water (two glasses at most). Consult doctor if feeling unwell.**If these recommendations are not followed the exposed person could experience a delayed eye irritation and skin irritation.***4.2 Most important symptoms and effects, both acute and delayed***May cause irritation. We have no further description of any symptoms.***4.3 Indication of any immediate medical attention and special treatment needed***No information available.***SECTION 5: Firefighting measures****5.1 Extinguishing media***Suitable extinguishing media:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use extinguishing media that is appropriate to the local surrounding environment and circumstance.**Unsuitable extinguishing media:**For this product no limitations of extinguishing media are given.*

Safety data sheet
according to 1907/2006/EC, Article 31
Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

5.2 Special hazards arising from the substance or mixture:*No data available***5.3 Advice for firefighters:***Wear protective clothing for firefighters. Wear self-contained breathing apparatus for firefighting if necessary.***SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures:***Advice for non-emergency personnel:**Wear suitable protective equipment as specified in SECTION 8**Advice for emergency personnel:**Wear suitable protective equipment as specified in SECTION 8***6.2 Environmental precautions***Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.***6.3 Methods and material for containment and cleaning up***Sweep up/absorb with any liquid-binding material and dispose according to section 13.***6.4 Reference to other sections***See section 7 for safe handling**See section 13 for disposal information***SECTION 7: Handling and storage****7.1 Precautions for safe handling:***Advice on safe handling:**No special measures required**Advice on hygiene measures:**Good practice is to wash hands before and after working with this mixture. Change contaminated clothing.***7.2 Conditions for safe storage, including any incompatibilities***Storage conditions:**Keep product fully closed**See product label for recommended storage temperature***7.3 Specified end use(s)***See subsection 1.2.***SECTION 8: Exposure controls/personal protection****8.1 Control parameters***Components with workplace control parameters:**None*

Safety data sheet

according to 1907/2006/EC, Article 31

Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

8.2 Exposure controls

Engineering controls:

General industrial hygiene practice.

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures:

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Considerations to specific work environment where the product is used should be made.

Eye/face protection:

Safety glasses tested and approved under standards such as EN 166(EU).

Skin protection:

Wear appropriate chemical resistant gloves. We recommend single use vinyl gloves. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Wear lab coat or suitable protective clothing.

Respiratory protection:

Not required normally. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards:

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

No special precautionary measures necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<i>State of matter:</i>	<i>Solid</i>
<i>Form:</i>	<i>Powder</i>
<i>Colour:</i>	<i>White to pale yellow</i>
<i>Odour:</i>	<i>Odourless</i>
<i>Odour threshold:</i>	<i>No information available. Odourless</i>
<i>pH:</i>	<i>6-8 at 20 °C (68 °F)</i>
<i>Melting point/freezing point:</i>	<i>No information available. Not determined.</i>
<i>Initial boiling point and boiling range:</i>	<i>No information available. Not determined.</i>
<i>Flash point:</i>	<i>Not applicable. Not flammable.</i>
<i>Evaporation rate:</i>	<i>No information available. Not determined.</i>
<i>Flammability (solid, gas):</i>	<i>Not applicable. Not flammable.</i>
<i>Upper/lower flammability or explosive limits:</i>	<i>Not applicable. Not flammable.</i>
<i>Vapour pressure:</i>	<i>No information available. Not determined.</i>
<i>Vapour density:</i>	<i>No information available. Not determined.</i>
<i>Relative density:</i>	<i>No information available. Not determined.</i>
<i>Solubility(ies):</i>	<i>Fully miscible in water</i>
<i>Partition coefficient: n-octanol/water:</i>	<i>No information available. Not determined.</i>

Safety data sheet

according to 1907/2006/EC, Article 31

Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

Auto-ignition temperature:
 Decomposition temperature:
 Viscosity:
 Explosive properties:
 Oxidising properties.

Not applicable. Not flammable.
 No information available. Not determined.
 No information available. Not determined.
 Not classified as explosive.
 None

9.2. Other Information

No relevant additional information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Contact with incompatible materials. Do not heat closed container. Do not pressurize container.

10.5 Incompatible materials

Strong oxidising or reducing agents. Strong acids or strong bases.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

General information

Occupational exposure to the substance or mixture may cause adverse effects.
 Handle in accordance with good industrial hygiene and safety practice.

Information on likely routes of exposure

Ingestion: May cause discomfort if swallowed.

Inhalation: Prolonged inhalation may be harmful.

Skin exposure: Prolonged contact with skin may cause temporary irritation.

Eye exposure: Direct contact with eyes may cause temporary irritation.

Symptoms: Exposure may cause temporary irritation, redness, or discomfort.

acute toxicity	Due to partial or complete lack of data the classification is not possible
skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible
serious eye damage/irritation	Due to partial or complete lack of data the classification is not possible
respiratory or skin sensitisation	Due to partial or complete lack of data the classification is not possible
germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible
carcinogenicity	Due to partial or complete lack of data the classification is not possible
reproductive toxicity	Due to partial or complete lack of data the classification is not possible
STOT-single exposure	Due to partial or complete lack of data the classification is not possible
STOT-repeated exposure	Due to partial or complete lack of data the classification is not possible

Safety data sheet
according to 1907/2006/EC, Article 31
Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

aspiration hazard

Due to partial or complete lack of data the classification is not possible

SECTION 12: Ecological information**12.1 Toxicity***No data available***12.2 Persistence and degradability***No data available***12.3 Bioaccumulative potential****Bioconcentration factor (BCF)***No data available***n-octanol/water (log K_{ow})***No data available***12.4 Mobility in soil***No data available***12.5 Results of PBT and vPvB assessment***This product does not contain a PBT or vPvB or substances.***12.6 Other adverse effects***This product may effect the pH in aquatic environment and risk adverse effect on water organisms. See pH specification under subsection 9.1.***SECTION 13: Disposal considerations****13.1 Waste treatment methods****Residual waste***Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.***Contaminated packaging***Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.***EU waste code***The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.***Disposal methods/information***Collect and reclaim or dispose in sealed containers at licensed waste disposal site.***Special precautions***Dispose in accordance with all applicable regulations.***SECTION 14: Transport information****14.1 UN number***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***14.2 UN proper shipping name***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.*

Safety data sheet
according to 1907/2006/EC, Article 31
Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

14.3 Transport hazard class(es)

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

14.4 Packaging group

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

14.5 Environmental hazards

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

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****EU Regulations**

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations Regulation

(EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Safety data sheet

according to 1907/2006/EC, Article 31

Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations

The product is classified and labelled in accordance with EG 1272/2008 (CLP regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended.

National regulations

Follow national regulation for work with chemical agents.

SECTION 16: Other information

List of abbreviations

CLP: Classification, Labelling and Packaging

AND: Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IATA: International Air Transport Association

IMDG: International Maritime Code for Dangerous Goods

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

Marpol: International Convention for the Prevention of Pollution from Ships

PBT: Persistent, bioaccumulative and toxic

vPvB: Very persistent and very bioaccumulative

References

ACGIH's documentation of the Threshold Limit Values and Biological Exposure Indices

EPA (Environmental Protection Agency)

HSDB®-Hazardous Substances Data Bank

IARC- monographs on the carcinogenic risks to humans

National toxicology program(NTP) report on carcinogen

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Safety data sheet
according to 1907/2006/EC, Article 31
Luciferin Substrate

Revision: 17.10.2024

Supersedes version issued: N/A

Full text of any H-statements not written out in full under Sections 2 to 15

None.

Training information

Follow training instructions when handling this material.

This revision is updated to comply with the latest regulations of (EC) No 1907/2006. No changes have been made in classification of the product.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. It characterises the product with regard to the appropriate safety precautions.

Safety data sheet
according to 1907/2006/EC, Article 31
Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

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

1.1 Product identifier

Trade name:

Tris-EDTA Buffer

Article number:

21-101, 21-103, 21-500

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

Reagent for analysis

For additional information on uses please refer to the BioThema AB website (<https://biothema.com>) or e-mail us at support@biothema.com

1.3 Details of the supplier of the safety data sheet

Biothema AB

Handens stationsväg 17

136 40 Handen

Sweden

+46 (0)8 7770020

Email address: support@biothema.com

MSDS author: BioThema AB

1.4 Emergency telephone number

Emergency telephone #: 112

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This mixture is not classified as dangerous according to Regulation (EC) No 1272/2008.

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008.

The product is classified and labelled according to the CLP regulation.

Pictograms: Void

Signal Word: Void

Hazard statement(s)

Void

Precautionary statement(s)

Void

2.3 Other Hazards

None known

Results of PBT and vPvB assessment in accordance with Annex XIII of (EC) No 1907/2006:

This mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Safety data sheet
according to 1907/2006/EC, Article 31
Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

SECTION 3: Composition/information on ingredients**3.1 Substances***Not applicable***3.2 Mixtures***Liquid. No disclosure requirement according to Regulation (EC) No 1272/2008*

EC	CAS	Chemical name	Percent

SECTION 4: First aid measures**4.1 Description of first aid measures***Personal protective equipment for first aid responders is not required.**No immediate medical attention required.**After inhalation: Supply fresh air; consult doctor in case of complaints.**After skin contact: The product might cause skin irritation; good practice is to remove contaminated clothing and rinse skin with water.**After eye contact: Rinse opened eye for several minutes under running water as a precaution. Remove contact lenses.**After ingestion: Drink water (two glasses at most). Consult doctor if feeling unwell.**If these recommendations are not followed the exposed person could experience a delayed eye irritation and skin irritation.***4.2 Most important symptoms and effects, both acute and delayed***May cause irritation. We have no further description of any symptoms.***4.3 Indication of any immediate medical attention and special treatment needed***No information available.***SECTION 5: Firefighting measures****5.1 Extinguishing media***Suitable extinguishing media:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use extinguishing media that is appropriate to the local surrounding environment and circumstance.**Unsuitable extinguishing media:**For this product no limitations of extinguishing media are given.*

Safety data sheet
according to 1907/2006/EC, Article 31
Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

5.2 Special hazards arising from the substance or mixture:

No data available

5.3 Advice for firefighters:

Wear protective clothing for firefighters. Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel:

Wear suitable protective equipment as specified in SECTION 8

Advice for emergency personnel:

Wear suitable protective equipment as specified in SECTION 8

6.2 Environmental precautions

Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up

Sweep up/absorb with any liquid-binding material and dispose according to section 13.

6.4 Reference to other sections

See section 7 for safe handling

See section 13 for disposal information

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Advice on safe handling:

No special measures required

Advice on hygiene measures:

Good practice is to wash hands before and after working with this mixture. Change contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:

Keep product fully closed

See product label for recommended storage temperature

7.3 Specified end use(s)

See subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters:

None

Safety data sheet

according to 1907/2006/EC, Article 31

Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

8.2 Exposure controls

Engineering controls:

General industrial hygiene practice.

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures:

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Considerations to specific work environment where the product is used should be made.

Eye/face protection:

Safety glasses tested and approved under standards such as EN 166(EU).

Skin protection:

Wear appropriate chemical resistant gloves. We recommend single use vinyl gloves. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Wear lab coat or suitable protective clothing.

Respiratory protection:

Not required normally. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards:

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

No special precautionary measures necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<i>State of matter:</i>	<i>Liquid</i>
<i>Form:</i>	<i>Clear liquid</i>
<i>Colour:</i>	<i>Colourless</i>
<i>Odour:</i>	<i>Odourless</i>
<i>Odour threshold:</i>	<i>No information available. Odourless</i>
<i>pH:</i>	<i>6-8 at 20 °C (68 °F)</i>
<i>Melting point/freezing point:</i>	<i>No information available. Not determined.</i>
<i>Initial boiling point and boiling range:</i>	<i>No information available. Not determined.</i>
<i>Flash point:</i>	<i>Not applicable. Not flammable.</i>
<i>Evaporation rate:</i>	<i>No information available. Not determined.</i>
<i>Flammability (solid, gas):</i>	<i>Not applicable. Not flammable.</i>
<i>Upper/lower flammability or explosive limits:</i>	<i>Not applicable. Not flammable.</i>
<i>Vapour pressure:</i>	<i>No information available. Not determined.</i>
<i>Vapour density:</i>	<i>No information available. Not determined.</i>
<i>Relative density:</i>	<i>No information available. Not determined.</i>
<i>Solubility(ies):</i>	<i>Fully miscible in water</i>
<i>Partition coefficient: n-octanol/water:</i>	<i>No information available. Not determined.</i>

Safety data sheet

according to 1907/2006/EC, Article 31

Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

Auto-ignition temperature:
 Decomposition temperature:
 Viscosity:
 Explosive properties:
 Oxidising properties:

Not applicable. Not flammable.
 No information available. Not determined.
 No information available. Not determined.
 Not classified as explosive.
 None

9.2. Other Information

No relevant additional information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Contact with incompatible materials. Do not heat closed container. Do not pressurize container.

10.5 Incompatible materials

Strong oxidising or reducing agents. Strong acids or strong bases.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

General information

Occupational exposure to the substance or mixture may cause adverse effects.
 Handle in accordance with good industrial hygiene and safety practice.

Information on likely routes of exposure

Ingestion: May cause discomfort if swallowed.

Inhalation: Prolonged inhalation may be harmful.

Skin exposure: Prolonged contact with skin may cause temporary irritation.

Eye exposure: Direct contact with eyes may cause temporary irritation.

Symptoms: Exposure may cause temporary irritation, redness, or discomfort.

acute toxicity	Due to partial or complete lack of data the classification is not possible
skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible
serious eye damage/irritation	Due to partial or complete lack of data the classification is not possible
respiratory or skin sensitisation	Due to partial or complete lack of data the classification is not possible
germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible
carcinogenicity	Due to partial or complete lack of data the classification is not possible
reproductive toxicity	Due to partial or complete lack of data the classification is not possible
STOT-single exposure	Due to partial or complete lack of data the classification is not possible
STOT-repeated exposure	Due to partial or complete lack of data the classification is not possible

Safety data sheet
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Tris-EDTA Buffer

Revision: 30.01.2019

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aspiration hazard

Due to partial or complete lack of data the classification is not possible

SECTION 12: Ecological information**12.1 Toxicity**

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential**Bioconcentration factor (BCF)**

No data available

n-octanol/water (log K_{ow})

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This product does not contain PBT or vPvB substances.

12.6 Other adverse effects

This product may effect the pH in aquatic environment and risk adverse effect on water organisms. See pH specification under subsection 9.1.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Residual waste**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Special precautions

Dispose in accordance with all applicable regulations.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

14.2 UN proper shipping name

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

Safety data sheet
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Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

14.3 Transport hazard class(es)*ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***14.4 Packaging group***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***14.5 Environmental hazards***ADR/RID: Not regulated as dangerous goods.**IMDG: Not regulated as dangerous goods.**IATA: Not regulated as dangerous goods.***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****EU Regulations**

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations Regulation

(EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Safety data sheet

according to 1907/2006/EC, Article 31

Tris-EDTA Buffer

Revision: 30.01.2019

Supersedes version issued: 24.04.2013

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations

The product is classified and labelled in accordance with EG 1272/2008 (CLP regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended.

National regulations

Follow national regulation for work with chemical agents.

SECTION 16: Other information**List of abbreviations**

CLP: Classification, Labelling and Packaging

AND: Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

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IMDG: International Maritime Code for Dangerous Goods

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

Marpol: International Convention for the Prevention of Pollution from Ships

PBT: Persistent, bioaccumulative and toxic

vPvB: Very persistent and very bioaccumulative

References

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EPA (Environmental Protection Agency)

HSDB®-Hazardous Substances Data Bank

IARC- monographs on the carcinogenic risks to humans

National toxicology program(NTP) report on carcinogen

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

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Revision: 30.01.2019

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Full text of any H-statements not written out in full under Sections 2 to 15

None.

Training information

Follow training instructions when handling this material.

This revision is updated to comply with the latest regulations of (EC) No 1907/2006. No changes have been made in classification of the product.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. It characterises the product with regard to the appropriate safety precautions.