

Safety Data Sheet

#25302670 · Full 16-section SDS

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

PRODUCT	CAS NUMBER	FORMULA	VERSION	REVISION DATE
D-Luciferin sodium salt monohydrate	103404-75-7	C11H7N2NaO3S2	10	23 Sep 2026

SECTION 1

Identification

1.1 Product identifier

Product name	D-Luciferin sodium salt monohydrate
CAS number	103404-75-7
EC / EINECS number	600-430-4
Chemical formula	C11H7N2NaO3S2
Molecular weight	302.30
SMILES	C1[C@@H](N=C(S1)C2=NC3=C(S2)C=C(C=C3)O)C(=O)[O-].[Na+]

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

Bioluminescent substrate used in biochemical assays. For research and development. Laboratory chemicals. Manufacture of substances.
Not suitable for human or veterinary purposes

1.3 Details of the supplier of the safety data sheet

Molekula Limited
1 Millennium Way, Newton Aycliffe
Durham, DL5 6JW, United Kingdom
info@molekula.com · +44 (0) 3302 000333

1.4 Emergency telephone number

0344 892 0111 — National Poisons Information Service (NPIS) (United Kingdom — for healthcare professionals (via TOXBASE))

SECTION 2

Hazard identification

2.1 Classification of the substance or mixture

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008.

2.2 Label elements

NONE

CODE	PRECAUTIONARY STATEMENT
------	-------------------------

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

2.3 Other hazards

Does not contain components considered to be persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB). Does not contain components considered to have endocrine-disrupting properties

SECTION 3

Composition / information on ingredients

3.1 Substances

Name	D-Luciferin sodium salt monohydrate
CAS number	103404-75-7
EC number	600-430-4
Concentration / purity	~100.0%
Classification according to Regulation (EC) No 1272/2008	This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008.
Hazard statements	None
Acute toxicity estimate (ATE)	Not reported
Impurities / stabilising additives	<i>Not applicable</i>

SECTION 4

First-aid measures

4.1 Description of first aid measures

Inhalation	After inhalation: fresh air.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Eye contact	After eye contact: rinse out with plenty of water. Remove contact lenses.
Ingestion	After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel. First aiders/ medical personnel need to protect themselves.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5

Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam, carbon dioxide, dry powder or water fog

Unsuitable extinguishing media No limitation of extinguishing media given.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Nitrogen oxides (NO_x)

Sulphur oxides (SO_x)

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

SECTION 6

Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For specific precautions, see Section 8 and Section 13.

SECTION 7

Handling & storage

7.1 Precautions for safe handling

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs.

Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product.

Remove contaminated clothing and launder thoroughly before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature -15 to -20 °C

Conditions for safe storage (incompatibilities) Store protected from light and moisture. Store in a dry place. Store in a closed container. Store under inert gas.

7.3 Specific end use(s)

See Section 1.2.

SECTION 8

Exposure controls / personal protection

8.1 Control parameters

Occupational exposure limits (OEL / WEL) Not reported

DNEC/PNEC data Not reported

8.2 Exposure controls

Eye / face protection Safety glasses
Wear eye/face protection as recommended. All eye/face protection should comply with EN ISO 16321-1:2022.

Skin / hand protection Gloves: Nitrile Rubber, 0.11mm (480 mins).

Respiratory protection Not required
Keep self-contained breathing apparatus readily available for emergency use. Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided. Respiratory equipment: Reusable Air-Purifying Respirator (APR). Filter type: ABEK. Standard: EN 14387.

Other protection No data available

Environmental exposure controls No data available

SECTION 9

Physical & chemical properties

9.1 Information on basic physical and chemical properties

Appearance / physical state Powder
DERIVED FROM: LITERATURE

Colour Yellow
DERIVED FROM: LITERATURE

Odour Not known
DERIVED FROM: LITERATURE

Melting / freezing point No data available

Boiling point No data available

Flammability Not applicable

Lower and upper explosion limit	<i>No data available</i>
--	--------------------------

Flash point	<i>Not applicable</i>
--------------------	-----------------------

Auto-ignition temperature	<i>No data available</i>
----------------------------------	--------------------------

Decomposition temperature	<i>No data available</i>
----------------------------------	--------------------------

pH	<i>No data available</i>
-----------	--------------------------

Acidity	Neutral DERIVED FROM: LITERATURE
----------------	-------------------------------------

Kinematic viscosity	<i>No data available</i>
----------------------------	--------------------------

Solubility	Soluble in water DERIVED FROM: LITERATURE
-------------------	--

Partition coefficient n-octanol/water (log value)	<i>No data available</i>
--	--------------------------

Vapour pressure	<i>No data available</i>
------------------------	--------------------------

Density (g/mL)	<i>Not applicable</i>
-----------------------	-----------------------

Relative vapour density	<i>No data available</i>
--------------------------------	--------------------------

Particle characteristics	<i>No data available</i>
---------------------------------	--------------------------

9.2 Other information

No data available

SECTION 10

Stability & reactivity

10.1 Reactivity

None known

10.2 Chemical stability

Air sensitive. Moisture sensitive. Stable under the prescribed storage conditions

10.3 Possibility of hazardous reactions

None reported

10.4 Conditions to avoid

Sensitive to air. Avoid moisture. Incompatible products

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11

Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (LD50 / LC50) *No data available*

Skin corrosion / irritation *No data available*

Eye corrosion / irritation *No data available*

Respiratory / skin sensitisation *No data available*

Carcinogenicity *No data available*

Mutagenicity *No data available*

Reproductive toxicity *No data available*

STOT (single / repeated exposure) *No data available*

Aspiration hazard Material is a solid.

11.2 Information on other hazards

Not considered an endocrine disruptor

SECTION 12

Ecological information

12.1 Toxicity

Based on available data, the classification criteria are not met

12.2 Persistence and degradability

The degradability of the product is not known

12.3 Bioaccumulative potential

Persistence is unlikely.

12.4 Mobility in soil

Likely to be mobile due to water solubility.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

See Section 11.2.

12.7 Other adverse effects

No data available

SECTION 13

Disposal considerations

13.1 Waste treatment methods

Dispose of in accordance with local/national regulations

SECTION 14

Transport information

14.1 UN number or ID number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Special precautions for user Not applicable

Transport category Not applicable

Tunnel code Not applicable

Packing instruction (ADR) Not applicable

Packing instruction (IMDG) Not applicable

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15

Regulatory information

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

Substance-specific regulations (e.g. licences) No data available

REACH code Y113

ECHA notification Not applicable

15.2 Chemical safety assessment

No

SECTION 16

Other information

Revision notes / other information This (v10) is the first version of this MSDS and was created on 23.09.2026

This Safety Data Sheet was generated automatically from the data Molekula holds against this product, in the 16-section GHS/CLP format. Fields shown as "No data available" carry no recorded value; fields shown as "Not applicable" were assessed as not relevant to this substance. For queries, contact Molekula at info@molekula.com.