



L-Cystine Dihydrochloride

Safety Data Sheet

According to Regulation (EU) 2015/830

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

1.1. Product Identifier

Product form : Substance
 Trade name : L-Cystine Dihydrochloride
 IUPAC name : (2R)-2-amino-3-{[(2R)-2-amino-2-carboxyethyl]disulfanyl}propanoic acid dihydrochloride
 EC-No. : 250-391-9
 CAS-No. : 30925-07-6

1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

1.2.1. Relevant Identified Uses

Use of the substance/mixture : Manufacture of fine chemicals

1.2.2. Uses Advised Against

Restrictions on use : No additional information available

1.3. Details of the supplier of the Safety Data Sheet

Supplier : **Only Representative**
 BioSpectra, Inc. : H2 Compliance
 100 Majestic Way, Bangor, PA 18013 : Rubicon Building, CIT Campus Bishopston, Cork, Ireland
 T: 610-599-3400 : T: +353 21 4868120
 E-mail: ehs@biospectra.us : E-mail: info@h2compliance.com Web page: www.h2compliance.com

1.4. Emergency Telephone Number

Emergency number : US & Canada: 1-800-424-9300
 : Outside the US & Canada: +1 703-527-3887

Country	Organization/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	Not Applicable
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Not Applicable

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

SECTION 2: Hazards Identification

2.1. Classification of the Substance or Mixture

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

Skin corrosion/irritation, Category 1B: H314

Serious eye damage/eye irritation, Category 1: H318

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available.

2.2. Label elements

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

Hazard pictograms (CLP)



GHS05

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P260 - Do not breathe dust.

P280 - Wear protective clothing, eye protection, face protection.

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

P310 - Immediately call a POISON CENTER, a doctor.

2.3. Other Hazards

Other hazards not contributing to the classification : No additional information available.

PBT: not yet assessed

vPvB: not yet assessed

SECTION 3: Composition

3.1. Substances

Substance type: Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
L-Cystine Dihydrochloride:	(CAS-No.) 30925-07-6 (EC-No.) 250-391-9	100	Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

SECTION 4: First Aid Measures

4.1. Description of First Aid Measures

First-aid measures general:	Call a physician immediately.
First-aid measures after inhalation:	Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact:	Rinse skin with water/shower. Take off immediately all contaminated clothing. Be careful, the product may remain trapped under clothing, footwear or a wrist-watch. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact:	Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion:	Rinse mouth. Do not induce vomiting because of corrosive effects. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects after inhalation:	Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/effects after skin contact:	Causes severe burns. May produce skin irritation, blistering, ulcers, and deep scarring.
Symptoms/effects after eye contact:	Lacrimation. Serious damage to eyes. Can cause blindness.
Symptoms/effects after ingestion:	Abdominal pain, nausea. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	Water spray. Dry powder. Foam. Carbon dioxide. Sand.
Unsuitable extinguishing media:	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard:	Burning produces stinking and toxic fumes.
Explosion hazard:	Avoid raising powdered material due to explosion hazard.
Reactivity in case of fire:	If the product is involved in a fire, it can release toxic chlorine gases.
Hazardous decomposition products in case of fire:	Toxic fumes may be released.

5.3. Advice for Firefighters

Firefighting instructions:	Do not enter fire area without proper protective equipment, including respiratory protection. Prevent firefighting water from entering the environment.
Protection during firefighting:	Do not attempt to take action without suitable protective equipment. Wear a self-contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective equipment and Emergency Procedures

General measures	:	Evacuate area. Avoid all contact with skin, eyes, or clothing.
6.1.1. For non-emergency personnel		
Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	Ventilate spillage area. Do not breathe dust, fume. Evacuate unnecessary personnel.

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". Wear recommended personal protective equipment. Evacuate the danger area.
----------------------	---	---

6.2. Environmental precautions

Avoid release to the environment. Do not allow product to spread into the environment. Prevent liquid from entering sewers, watercourses, underground or low areas.

6.3. Methods and material for containment and cleaning up

For containment	:	Do not touch or walk on the spilled product. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.
Methods for cleaning up	:	Mechanically recover the product. Clean up immediately by sweeping or vacuum. Clean contaminated surfaces with an excess of water.
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. See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for Safe Handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust. Wear personal protective equipment. Avoid dust formation. Do not handle until all safety precautions have been read and understood.
Hygiene measures	:	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store locked up. Store in a well-ventilated place. Keep cool. Store in original container or corrosive resistant and/or lined container.
Incompatible products	:	Oxidizing agent. Strong acids. Strong bases.
Incompatible materials	:	Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific End Use(s)

Manufacture of fine chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control Parameters

No additional information available

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

8.2. Exposure Controls

Appropriate Engineering Controls:

Provide adequate ventilation to minimize dust concentrations. Do not breathe dust. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Nitrile rubber gloves. Thickness. 0.11 mm. EN 374

Eye protection:

Chemical goggles or face shield. EN 166. Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. In case of inadequate ventilation wear respiratory protection.

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on Basic Physical and Chemical Properties

Physical state	:	Solid
Appearance	:	white to slightly yellow.
Color	:	No data available
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	228 – 232 °C
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Nonflammable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other Information

Molecular weight	:	313.22 g/mol
------------------	---	--------------

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. Hazardous polymerization: Will not occur.

10.4. Conditions to avoid

Open flame. Overheating. Protect from sunlight.

10.5. Incompatible materials

Strong bases. Strong acids. Oxidizing agent.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Sulphur oxides. Nitrogen oxides. hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	Causes severe skin burns.
Serious eye damage/irritation	:	Causes serious eye damage.
Respiratory or skin sensitization	:	Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	:	Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	:	Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	:	Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	:	Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	:	Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	:	Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Before neutralization, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute)	:	Not classified (Based on available data, the classification criteria are not met)

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

Hazardous to the aquatic environment, : Not classified (Based on available data, the classification criteria are not met)
 long-term (chronic) Not rapidly
 degradable

12.2. Persistence and degradability

L-Cystine Dihydrochloride (30925-07-6)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

L-Cystine Dihydrochloride (30925-07-6)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

L-Cystine Dihydrochloride (30925-07-6)	
PBT: not yet assessed	
vPvB: not yet assessed	

12.6. Other adverse effects

Other adverse effects : Before neutralization, the product may represent a danger to aquatic organisms.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations. Do not dispose of waste into sewer.






Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Product residual disposal complies with applicable regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport Information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 1759	UN 1759	UN 1759	UN 1759	UN 1759
14.2. UN proper shipping name				
CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride)	CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride)	Corrosive solid, n.o.s. (L- Cystine Dihydrochloride)	CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride)	CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride)
Transport document description				
UN 1759 CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride), 8, II, (E)	UN 1759 CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride), 8, II	UN 1759 Corrosive solid, n.o.s. (L- Cystine Dihydrochloride), 8, II	UN 1759 CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride), 8, II	UN 1759 CORROSIVE SOLID, N.O.S. (L-Cystine Dihydrochloride), 8, II
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user**Overland transport**

Classification code (ADR)	: C10
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P002, IBC08
Special packing provisions (ADR)	: B4
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	
: TP33 Tank code (ADR)	: SGAN, L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	2
Special provisions for carriage - Packages (ADR)	: V11
Hazard identification number (Kemler No.)	80

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

Orange plates



Tunnel restriction code (ADR) : E
 EAC code : 2X

Transport by sea

Special provisions (IMDG) : 274
 Limited quantities (IMDG) : 1 kg
 Excepted quantities (IMDG) : E2
 Packing instructions (IMDG) : P002
 IBC packing instructions (IMDG) : IBC08
 IBC special provisions (IMDG) : B21, B4
 Tank instructions (IMDG) : T3
 Tank special provisions (IMDG) : TP33
 EmS-No. (Fire) : F-A
 EmS-No. (Spillage) : S-B
 Stowage category (IMDG) : A
 Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E2
 PCA Limited quantities (IATA) : Y844
 PCA limited quantity max net quantity (IATA) : 5kg
 PCA packing instructions (IATA) : 859
 PCA max net quantity (IATA) : 15kg
 CAO packing instructions (IATA) : 863
 CAO max net quantity (IATA) : 50kg
 Special provisions (IATA) : A3, A803
 ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C10
 Special provisions (ADN) : 274
 Limited quantities (ADN) : 1 kg
 Excepted quantities (ADN) : E2
 Equipment required (ADN) : PP, EP
 Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C10
 Special provisions (RID) : 274
 Limited quantities (RID) : 1kg
 Excepted quantities (RID) : E2
 Packing instructions (RID) : P002, IBC08
 Special packing provisions (RID) : B4
 Mixed packing provisions (RID) : MP10
 Portable tank and bulk container instructions (RID) : T3
 Portable tank and bulk container special provisions (RID): TP33
 Tank codes for RID tanks (RID) : SGAN, L4BN
 Transport category (RID) : 2
 Special provisions for carriage – Packages (RID) : W11
 Colis express (express parcels) (RID) : CE10

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

Hazard identification number (RID) : 80

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

Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations**

No REACH Annex XVII restrictions

L-Cystine Dihydrochloride is not on the REACH Candidate List

L-Cystine Dihydrochloride is not on the REACH Annex XIV List

L-Cystine Dihydrochloride is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

L-Cystine Dihydrochloride is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other Information

Abbreviations and Acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration

The information contained herein is the confidential property of BioSpectra. The recipient is responsible for its safe-keeping and the prevention of unauthorized appropriation, use, disclosure and copying.

OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Data sources : ECHA (European Chemicals Agency). REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. Supplier's safety documents. ECHA (European Chemicals Agency).

Full text of H- and EUH-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

The classification complies with : ATP 12

SDS EU (REACH Annex II)

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