PanReac AppliChem ITW Reagents

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

Printing date 08.03.2021
Revision: 08.03.2021
Version number 6.02

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

· **1.1 Product identifier**

· **Trade name: L-Cystine**

· **Article number:** A1703
· **CAS Number:**
56-89-3
· **EC number:**
200-296-3
· **Registration number** 01-2119959856-16-XXXX
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture**
Pharmaceutical analysis
Cell culture
Biochemistry
Laboratory chemical

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
Tel.: +49 (0)6151 93570
Fax.: +49 (0)6151 935711
msds@applichem.com

· **Further information obtainable from:** Dept. Compliance
· **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal buisness hours)

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified, according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
56-89-3 L-Cystine
· **Identification number(s)**
· **EC number:** 200-296-3

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Seek medical treatment.
· **After swallowing:**
Rinse out mouth.
make victim drink water (maximum of 2 drinking glasses)
If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Water, CO2, foam, powder.
Use fire extinguishing methods suitable to surrounding conditions.
· **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide
Sulphur oxides (SOx)
Non-combustible.
· **5.3 Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.
· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Do not inhale dust.
Ensure adequate ventilation
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Avoid formation of dust.

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Clean up affected area.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Provide suction extractors if dust is formed.
· **Information about fire - and explosion protection:**
Dust can combine with air to form an explosive mixture.
The product is not flammable.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Unsuitable material for receptacle: aluminium.
Do not use light alloy receptacles.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container sealed.
· **Recommended storage temperature:** Room Temperature
· **Storage class:** 13
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNELs**

Oral	Long-term - systemic effects, general population	7.5 mg/kg (worker)
Dermal	Long-term - systemic effects, worker	15 mg/kg (worker)
	Long term - systemic effects, general population	7.5 mg/kg (worker)
Inhalative	Acute - systemic effects, worker	158.7 mg/m3 (worker)
	Long-term - systemic effects, worker	52.9 mg/m3 (worker)
	Acute - systemic effects, general population	39 mg/m3 (worker)
	Long-term - systemic effects, general population	13 mg/m3 (worker)

· **PNECs**

Aquatic compartment - freshwater	0.1 mg/L
Aquatic compartment - marine water	0.01 mg/L
Aquatic compartment - sediment in freshwater	1 mg/kg
Aquatic compartment - sediment in marine water	0.01 mg/kg
Sewage treatment plant	100 mg/L
Ground	1 mg/kg

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see item 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing
· **Respiratory protection:**
Filter P1
Required when dusts are generated.

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· **Hand protection**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min
· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min
· **Eye/face protection** Safety glasses
· **Body protection:** Protective work clothing

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Solid
· **Colour:**	Whitish
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	261-262 °C
· **Boiling point or initial boiling point and boiling range**	Undetermined.
· **Flammability**	Product is not flammable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	210 °C
· **pH**	Not applicable.
· **Viscosity:**	
· **Kinematic viscosity**	Not applicable.
· **Dynamic:**	Not applicable.
· **Solubility**	
· **water at 20 °C:**	0.22 g/l Insoluble.
· **Partition coefficient n-octanol/water (log value)**	-4.30103
· **Vapour pressure:**	Not applicable.
· **Density and/or relative density**	
· **Density at 20 °C:**	1.66 g/cm³
· **Relative density**	Not determined.
· **Bulk density:**	700-900 kg/m³
· **Vapour density**	Not applicable.
· **Particle characteristics**	See item 3.

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· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Solid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	286 °C
· **Explosive properties:**	Product does not present an explosion hazard.
· **Change in condition**	
· **Evaporation rate**	Not applicable.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** Reacts with strong oxidising agents.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** oxidizing agent
· **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

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SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.

· **Components**	**Type**	**Value**	**Species**
Oral	LD50	>25000 mg/kg (rat)	

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **After inhalation:** No irritant effect.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **11.2 Information on other hazards**
· **Endocrine disrupting properties** Substance is not listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.

· Type of test	Effective concentration	Method	Assessment
LC50/48 h	>100 mg/l (daphnia magna)		
LC50/96 h (static)	>100 mg/l (fish)		

· **12.2 Persistence and degradability** The product is easily biodegradable.
· **12.3 Bioaccumulative potential** -4.34 log Pow
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.

· **Uncleaned packaging:**
· **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	Not applicable.

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· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
· **REGULATION (EU) 2019/1148**
· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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.

· **Department issuing SDS:** Dept. Compliance
· **Date of previous version:** 08.03.2021
· **Version number of previous version:** 6.01
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
· *** Data compared to the previous version altered.**