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A Geno Technology, Inc. (USA) brand name

# Safety Data Sheet

Cat. # 786-713

L-Cysteine·HCL, monohydrate

Size: 5g



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# L-cysteine hydrochloride monohydrate

## Safety Data Sheet

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

Date of issue: 02/27/2017

Revision date: 05/11/2017

Version: 7.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : L-cysteine hydrochloride monohydrate  
Chemical name : Cysteine.HCl, monohydrate  
CAS-No. : 7048-04-6  
Product code : 293C  
Formula :  $C_3H_7NO_2S.HCl.H_2O$   
Synonyms : (R)-(+)-cysteine hydrochloride monohydrate / (R)-cysteine hydrochloride monohydrate / 2-amino-3-mercaptopropionic acid hydrochloride, L-, monohydrate / 3-mercaptopropionic acid hydrochloride, L-, monohydrate / cystein chloride, L-, monohydrate / cysteine chlorhydrate, L-, monohydrate / cysteine chlorhydrate, L-, monohydrate / cysteine HCl, L-, monohydrate / cysteine hydrochloride, (R)-, monohydrate / cysteine hydrochloride, (R)-(+)-, monohydrate / cysteine hydrochloride, L(+)-, 1-hydrate / cysteine hydrochloride, L(+)-, monohydrate / cysteine hydrochloride, L(+)-, monohydrate / cysteine hydrochloride, L-, monohydrate / cysteine monohydrochloride, L-, monohydrate / cysteine, hydrochloride, L-, monohydrate / cystein-hydrochloride, L-, monohydrate / L(+)-cysteine hydrochloride 1-hydrate / L(+)-cysteine hydrochloride monohydrate / L(+)-cysteine hydrochloride monohydrate / L-2-amino-3-mercaptopropionic acid hydrochloride monohydrate / L-3-mercaptopropionic acid hydrochloride monohydrate / L-cystein chloride monohydrate / L-cysteine chlorhydrate monohydrate / L-cysteine chlorhydrate monohydrate / L-cysteine HCl monohydrate / L-cysteine monohydrochloride monohydrate / L-cysteine, hydrochloride, monohydrate / L-cystein-hydrochloride monohydrate / WR 348 monohydrate  
BIG No : 37495

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
Saint Louis, 63132-1429 - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage  
Specific target organ toxicity (single exposure) Category 3 H335 May cause respiratory irritation  
Full text of H statements : see section 16

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

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage  
H335 - May cause respiratory irritation

Precautionary statements (GHS US) : P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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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/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
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 or doctor  
P312 - Call a poison center or doctor if you feel unwell  
P321 - Specific treatment (see supplemental first aid instruction on this label)  
P363 - Wash contaminated clothing before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
L-cysteine hydrochloride monohydrate (Main constituent)	(R)-(+)-cysteine hydrochloride monohydrate / (R)-cysteine hydrochloride monohydrate / 2-amino-3-mercaptopropionic acid hydrochloride, L-, monohydrate / 3-mercaptopropionic acid hydrochloride, L-, monohydrate / cysteine chloride, L-, monohydrate / cysteine chlorhydrate, L-, monohydrate / cysteine chlorhydrate, L-, monohydrate / cysteine HCl, L-, monohydrate / cysteine hydrochloride, (R)-, monohydrate / cysteine hydrochloride, (R)-(+)-, monohydrate / cysteine hydrochloride, L(+)-, 1-hydrate / cysteine hydrochloride, L(+)-, monohydrate / cysteine hydrochloride, L-(+)-, monohydrate / cysteine hydrochloride, L-, monohydrate / cysteine monohydrochloride, L-, monohydrate / cysteine, hydrochloride, L-, monohydrate / cystein-hydrochloride, L-, monohydrate / L(+)-cysteine hydrochloride 1-hydrate / L(+)-cysteine hydrochloride monohydrate / L-(+)-cysteine hydrochloride monohydrate / L-2-amino-3-mercaptopropionic acid hydrochloride monohydrate / L-3-mercaptopropionic acid hydrochloride monohydrate / L-cystein chloride monohydrate / L-cysteine chlorhydrate monohydrate / L-cysteine chlorhydrate monohydrate / L-cysteine HCl monohydrate / L-cysteine monohydrochloride monohydrate / L-cysteine, hydrochloride, monohydrate / L-cystein-hydrochloride monohydrate / WR 348 monohydrate	(CAS-No.) 7048-04-6	100	Skin Corr. 1, H314 STOT SE 3, H335

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

### 3.2. Mixtures

Not applicable

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### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
- First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)).

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

- Potential Adverse human health effects and symptoms : Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.
- Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
- Symptoms/effects after skin contact : Tingling/irritation of the skin.
- Symptoms/effects after eye contact : Irritation of the eye tissue.
- Symptoms/effects after ingestion : Irritation of the gastric/intestinal mucosa.

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

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

#### 5.2. Specific hazards arising from the chemical

- Fire hazard : INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".

#### 5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit.
- Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.
- Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

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### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. On heating: dilute combustible/toxic gases/vapours.
- Methods for cleaning up : Prevent dust cloud formation. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. metals. water/moisture.
- Storage area : Store in a dry area. Store in a dark area. May be stored under argon. Store at room temperature. Keep out of direct sunlight. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: glass. plastics. MATERIAL TO AVOID: iron. copper.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### L-cysteine hydrochloride monohydrate (7048-04-6)

No additional information available

### 8.2. Appropriate engineering controls

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

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

#### Hand protection:

Gloves

#### Eye protection:

Face shield. In case of dust production: protective goggles

#### Skin and body protection:

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

#### Respiratory protection:

Dust formation: dust mask. On heating: full face mask

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Crystalline solid.
- Color : White

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Odor	: Unpleasant odour
Odor threshold	: No data available
pH	: 0.8 (10 %)
Melting point	: 175 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: Not applicable
Relative density	: 1.5
Specific gravity / density	: 1500 kg/m³
Molecular mass	: 175.64 g/mol
Solubility	: Soluble in water. Soluble in ethanol. Soluble in acetone. Water: > 10 g/100ml
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 175 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

Other properties : Hygroscopic. Acid reaction.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Oxidizes slowly on exposure to air.

### 10.2. Chemical stability

Discolours on exposure to light. Discolours on exposure to air. Hygroscopic. Unstable on exposure to air.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 0.8 (10 %)
Serious eye damage/irritation	: Eye damage, category 1, implicit pH: 0.8 (10 %)
Respiratory or skin sensitization	: Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.
Symptoms/effects after inhalation	: AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/effects after skin contact	: Tingling/irritation of the skin.
Symptoms/effects after eye contact	: Irritation of the eye tissue.
Symptoms/effects after ingestion	: Irritation of the gastric/intestinal mucosa.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: No water pollutant (surface water). Insufficient data available on ecotoxicity. pH shift.

### 12.2. Persistence and degradability

#### L-cysteine hydrochloride monohydrate (7048-04-6)

Persistence and degradability	Biodegradability in water: no data available.
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### 12.3. Bioaccumulative potential

#### L-cysteine hydrochloride monohydrate (7048-04-6)

Bioaccumulative potential	No bioaccumulation data available.
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods	: Waste treatment methods.
Product/Packaging disposal recommendations	: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an incinerator for chlorinated waste materials with energy recovery. Dissolve or mix with a combustible solvent.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not applicable

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### Transportation of Dangerous Goods

Not applicable

### Transport by sea

Not applicable

### Air transport

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### L-cysteine hydrochloride monohydrate (7048-04-6)

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

### 15.2. International regulations

#### CANADA

#### L-cysteine hydrochloride monohydrate (7048-04-6)

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

### EU-Regulations

#### National regulations

No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

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Revision date : 05/11/2017

Full text of H-phrases:

H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation

SDS US (GHS HazCom 2012)

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