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A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # RC-729

S-Acetylthiocholine iodide

Size: 50 G



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S-Acetylthiocholine iodide

Safety Data Sheet

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

Date of issue: 01/27/2016

Revision date: 05/11/2017

Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : S-Acetylthiocholine iodide
CAS-No. : 1866-15-5
Product code : 857A
Formula : C7H16INOS
Synonyms : (2-mercaptoethyl)trimethylammoniumiodideacetate / 2-(acetylthio)-N,N,N-trimethylethanaminiumiodide / 2-acetylthioethyltrimethylammonium iodide / ethanaminium, 2-(acetylthio)-N,N,N-trimethyl-, iodide / S-acetylthiocholineiodide
BIG No : 16218

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Chemical substance for research

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 - 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

Acute toxicity (oral) Category 3	H301 Toxic if swallowed
Acute toxicity (dermal) Category 4	H312 Harmful in contact with skin
Skin corrosion/irritation Category 2	H315 Causes skin irritation
Serious eye damage/eye irritation Category 2	H319 Causes serious eye irritation
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) :
H301 - Toxic if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS US) :
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor
P302+P352 - If on skin: Wash with plenty of water
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
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see supplemental first aid instruction on this label)

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P322 - Specific treatment (see supplemental first aid instruction on this label)
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it 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
S-Acetylthiocholine iodide (Main constituent)	(2-mercaptoethyl)trimethylammonium iodideacetate / 2-(acetylthio)-N,N,N-trimethylethanaminiumiodide / 2-acetylthioethyltrimethylammonium iodide / ethanaminium, 2-(acetylthio)-N,N,N-trimethyl-, iodide / S-acetylthiocholineiodide	(CAS-No.) 1866-15-5	100	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

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

3.2. Mixtures

Not applicable

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 the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water. 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. Give nothing to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.

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

Potential Adverse human health effects and symptoms : Toxic if swallowed. Harmful in contact with skin. Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.

Symptoms/effects after inhalation : 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 : AFTER INGESTION OF HIGH QUANTITIES: 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.

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Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Specific hazards arising from the chemical

No additional information available

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 : Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

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. No naked flames. Wash contaminated clothes.

Measures in case of dust release : In case of dust production: keep upwind. In case of dust production: consider evacuation. 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

Prevent soil and water pollution. Prevent spreading in sewers.

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. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up : Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Take collected spill to manufacturer/competent authority. 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

Additional hazards when processed : Pulverization rapidly increases toxic concentration.

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. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. 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.

Storage temperature : -20

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. water/moisture.

Storage area : Store in a cool area. Store in a dry area. Store in a dark area. Keep out of direct sunlight. Keep locked up. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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USA - ACGIH - Occupational Exposure Limits

ACGIH TWA (ppm)	0.01 ppm (Inhalable fraction and vapor)
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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 production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Powder.
Color	: No data available
Odor	: Characteristic odour
Odor threshold	: No data available
pH	: 5 - 6 (5 %)
Melting point	: 205 °C
Freezing point	: Not applicable
Boiling point	: No data available
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	: Not applicable
Molecular mass	: 289.2 g/mol
Solubility	: Moderately soluble in water. Water: 5 g/100ml
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

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9.2. Other information

Other properties : Hygroscopic. Acid reaction.

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

Hygroscopic.

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) : Toxic if swallowed.
Acute toxicity (dermal) : Harmful in contact with skin.
Acute toxicity (inhalation) : Not classified

S-Acetylthiocholine iodide (1866-15-5)	
LD50 oral rat	100 mg/kg (Rat, Oral)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: 5 - 6 (5 %)

Serious eye damage/irritation : Causes serious eye irritation.
pH: 5 - 6 (5 %)

Respiratory or skin sensitization : Not classified

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 : Toxic if swallowed. Harmful in contact with skin. Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.

Symptoms/effects after inhalation : 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 : AFTER INGESTION OF HIGH QUANTITIES: Irritation of the gastric/intestinal mucosa.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

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Ecology - water : Severe water pollutant (surface water). No data available on ecotoxicity. pH shift.

12.2. Persistence and degradability

S-Acetylthiocholine iodide (1866-15-5)

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

S-Acetylthiocholine iodide (1866-15-5)

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	: Do not discharge into drains or the environment. 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 authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Detoxicate. 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

Transport document description	: UN2811 Toxic solids, organic, n.o.s., 6.1, III
UN-No.(DOT)	: UN2811
Proper Shipping Name (DOT)	: Toxic solids, organic, n.o.s.
Class (DOT)	: 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Symbols	: G - Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)	: IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 200 kg
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Transport document description (IMDG)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III
UN-No. (IMDG)	: 2811
Proper Shipping Name (IMDG)	: TOXIC SOLID, ORGANIC, N.O.S.
Class (IMDG)	: 6.1 - Toxic substances
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 kg
EmS-No. (1)	: F-A
EmS-No. (2)	: S-A

Air transport

Transport document description (IATA)	: UN 2811 Toxic solid, organic, n.o.s., 6.1, III
UN-No. (IATA)	: 2811
Proper Shipping Name (IATA)	: Toxic solid, organic, n.o.s.
Class (IATA)	: 6.1 - Toxic Substances
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

S-Acetylthiocholine iodide (1866-15-5)

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

15.2. International regulations

CANADA

EU-Regulations

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National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

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Full text of H-phrases:

H301	Toxic if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
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.