

Gallium Indium Tin eutectic: sc-300757



The Power to Question

MATERIAL SAFETY DATA SHEET

1 Identification of substance:

Product Name: Gallium Indium Tin eutectic
Catalog Number: sc-300757
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

2 Hazards identification

Classification of the substance or mixture



GHS05 Corrosion

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C; Corrosive

R34: Causes burns.

Label elements

Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals

Code letter and hazard designation of product:

C Corrosive

Risk phrases:

34 Causes burns.

Safety phrases:

20 When using do not eat or drink.

23 Do not breathe gas/fumes/vapour/spray.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

Hazard description:

WHMIS classification



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	2
FIRE	0
REACTIVITY	1

Health (acute effects) = 2

Flammability = 0

Reactivity = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

(CAS#) Description:

Gallium (CAS# 7440-55-3): 62%

Indium (CAS# 7440-74-6): 22%

Tin (CAS# 7440-31-5): 16%

4 First aid measures

Description of first aid measures

General information Immediately remove any clothing soiled by the product.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Firefighting measures

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Toxic metal oxide fume

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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.

7 Handling and storage

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:

Do not store together with acids.

Store away from oxidizing agents.

Store away from halogens.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

Indium and compounds

	mg/m3
ACGIH TLV	0.1(In)
Belgium TWA	0.1
Denmark TWA	0.1(In)
Finland TWA	0.1
Korea TLV	0.1(In)
Netherlands MAC-TGG	0.1
Norway TWA	0.1
Switzerland MAK-W	0.1
United Kingdom TWA	0.1(In); 0.3(In)-STEL
USA PEL	0.1(In)

Tin metal, tin oxide and inorganic tin compounds,
except tin hydride, as Sn

	mg/m3
ACGIH TLV	2
Austria MAK	2
Belgium TWA	2
Denmark TWA	2
Finland TWA	2
Germany MAK	2
Hungary TWA	1; 2-STEL (skin)
Netherlands MAC-TGG	2
Norway TWA	1
Poland TWA	2
Switzerland MAK-W	2; 4-KZG-W
United Kingdom TWA	2; 4-STEL
USA PEL	2

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.
Quality will vary from manufacturer to manufacturer.

Eye protection:

Safety glasses

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Formula:	Ga:In:Sn; 62:22:16 wt%
Weight:	N/A

pH-value: Not determined.

Change in condition

Melting point/Melting range:	10.7°C (51 °F)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flash point: Not determined

Flammability (solid, gaseous) Not applicable.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined
Upper:	Not determined

Vapor pressure: Not determined

Density at 20°C (68 °F):	6.5 g/cm ³ (54.243 lbs/gal)
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity

Chemical stability

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions No dangerous reactions known

Incompatible materials:

Acids

Oxidizing agents

Halogens

Hazardous decomposition products: Toxic metal oxide fume

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin:

Corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

on the eye:

Strong corrosive effect.

Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Exposure to indium compounds may cause pain in the joints and bones, tooth decay, nervous and gastrointestinal disorders, heart pain and general debility. Experiments with animals also indicate that indium may cause reduced food and water consumption with weight loss, pulmonary edema, pneumonia, blood, liver and kidney damage, leg paralysis and damage to the brain, heart, adrenals and spleen.

Gallium and gallium compounds may cause metallic taste, dermatitis and depression of the bone marrow function. Large doses may cause hemorrhagic nephritis.

Metallic tin and inorganic tin compounds may cause nausea, vomiting, diarrhea, irritation and pneumoconiosis.

Subacute to chronic toxicity:

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss.

Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

Toxicity

Acquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class: 8
Identification number: UN1760
Packing group: III
Proper shipping name (technical name): CORROSIVE LIQUID, N.O.S. (gallium indium tin eutectic)
Label 8

Land transport ADR/RID (cross-border)



ADR/RID class: 8 (C9) Corrosive substances
Danger code (Kemler): 80
UN-Number: 1760
Packaging group: III
UN proper shipping name: 1760 CORROSIVE LIQUID, N.O.S. (gallium indium tin eutectic)

Maritime transport IMDG:



IMDG Class: 8
UN Number: 1760
Label 8
Packaging group: III
Marine pollutant: No
Proper shipping name: CORROSIVE LIQUID, N.O.S. (gallium indium tin eutectic)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 8
UN/ID Number: 1760
Label 8
Packaging group: III
Proper shipping name: CORROSIVE LIQUID, N.O.S. (gallium indium tin eutectic)

UN "Model Regulation": UN1760, CORROSIVE LIQUID, N.O.S., 8, III

Special precautions for user Warning: Corrosive substances

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

15 Regulatory information

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

Product related hazard informations:

Observe the general safety regulations when handling chemicals

Hazard symbols:

C Corrosive

Risk phrases:

34 Causes burns.

Safety phrases:

- 20 When using do not eat or drink.
23 Do not breathe gas/fumes/vapour/spray.
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36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use: For use only by technically qualified individuals.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

6/8/2011