



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 16-Jul-2018

Version 1.1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name a-Terpinene
Product Code SC-239167

Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification

Acute toxicity - Oral
Skin corrosion/irritation
Serious eye damage/eye irritation
Specific target organ toxicity (single exposure)
Flammable liquids

Category 3
Category 2
Category 2A
Category 3
Category 3

Label elements

Signal word
Hazard statements

Danger
Toxic if swallowed
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Flammable liquid and vapor

Symbols/Pictograms



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool



Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 If skin irritation occurs: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth
 In case of fire: Use CO2, dry chemical, or foam for extinction
 Store locked up Store in a well-ventilated place. Keep container tightly closed
 Dispose of contents/container to an approved waste disposal plant

Precautionary Statements - Storage

Precautionary Statements - Disposal

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) Not applicable

Other Information

Other hazards Toxic to aquatic life with long lasting effects.

| | | | | | | |
|-------------|----------------------------------|---|--|-------------|---------------------|---|
| NFPA | Health hazards | 2 | | HMIS | Health hazards | 2 |
| | Flammability | 2 | | | Flammability | 2 |
| | Stability | 0 | | | Physical hazards | 0 |
| | Physical and chemical properties | - | | | Personal protection | - |

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 99-86-5
 Molecular Weight 136.23
 Formula C₁₀H₁₆

| Chemical name | CAS No. | Weight-% | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|---------|----------|----------------------|-------------|-----------------|
| α-Terpinene | 99-86-5 | >98 | = 1680 mg/kg (Rat) | - | - |

4. FIRST AID MEASURES

First Aid Measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact Wash off immediately with plenty of water. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air Call a physician If breathing is irregular or stopped, administer artificial



| | |
|------------------------------------|---|
| | respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Artificial respiration and/or oxygen may be necessary Immediate medical attention is not required Move to fresh air in case of accidental inhalation of vapors If symptoms persist, call a physician |
| Ingestion | Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. |
| Self-protection of the first aider | Remove all sources of ignition. Use personal protective equipment as required. |

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides.

Explosion data

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert absorbent material.

7. HANDLING AND STORAGE



Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place. Store at 4 °C.

Incompatible materials

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Skin and Body Protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

liquid

Appearance

No information available

Odor

Pleasant

Property

Values

pH

No information available

Melting point/freezing point

-31.15 °C

Boiling point

173 °C

Flash point

50 °C

Liquid Density

0.84 g/mL

Evaporation rate

No information available

Upper flammability limits

No information available

Lower flammability limit

No information available

Vapor pressure

0.1 mmHg

Vapor density

4.7

Specific gravity

0.84

Water solubility

No information available

Solubility in other solvents

No information available



| | |
|---------------------------|--------------------------|
| Partition coefficient | 4.25 |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Kinematic viscosity | No information available |
| Explosive properties | No information available |
| Oxidizing properties | No information available |

10. STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Reactivity | Not applicable |
| Chemical stability | Stable under recommended storage conditions. |
| Possibility of Hazardous Reactions | None under normal processing. |
| Hazardous polymerization | No information available. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous Decomposition Products | Carbon oxides. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | |
|--------------|--------------------|
| Inhalation | No data available. |
| Eye contact | No data available. |
| Skin Contact | No data available. |
| Ingestion | No data available. |

Information on toxicological effects

| | |
|----------|---------------------------|
| Symptoms | No information available. |
|----------|---------------------------|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|------------------|--------------------------|
| Chronic Toxicity | Avoid repeated exposure. |
|------------------|--------------------------|

Numerical measures of toxicity - Product Information

| | |
|--|--------------------------|
| Unknown acute toxicity | No information available |
| The following values are calculated based on chapter 3.1 of the GHS document | |
| ATEmix (oral) | 100 mg/kg |

12. ECOLOGICAL INFORMATION

| | |
|-------------|---|
| Ecotoxicity | Toxic to aquatic life with long lasting effects |
|-------------|---|

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

| | |
|-------------------------------|---------------------------|
| Persistence and degradability | No information available. |
| Bioaccumulation | No information available. |
| Mobility | No information available. |

13. DISPOSAL CONSIDERATIONS

| | |
|--------------------|--|
| Disposal of wastes | Disposal should be in accordance with applicable regional, national and local laws and |
|--------------------|--|



Contaminated packaging regulations.
 Other Information Do not reuse container.
 Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

DOT

UN/ID no UN2319
 Hazard Class 3
 Packing Group III
 Proper shipping name Terpene hydrocarbons, n.o.s.
 Description UN2319, Terpene hydrocarbons, n.o.s., 3, III
 Emergency Response Guide Number 128

IMDG

UN/ID no UN2319
 Hazard Class 3
 Packing Group III
 Proper shipping name Terpene hydrocarbons, n.o.s.
 Description UN2319, Terpene hydrocarbons, n.o.s. (α -Terpinene), 3, III, (50°C c.c.), Marine pollutant
 EmS-No F-E, S-D

IATA

UN/ID no UN2319
 Hazard Class 3
 Packing Group III
 Proper shipping name Terpene hydrocarbons, n.o.s.
 Description UN2319, Terpene hydrocarbons, n.o.s., 3, III
 ERG Code 3L

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC)
 ENCS (Japan): Philippines (PICCS)

| Chemical name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---------------------|------|-----|------|--------|--------|------|-------|------|-------|------|
| α -Terpinene | X | X | - | X | - | X | X | X | X | X |

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories



| | |
|-----------------------------------|-----|
| Acute health hazard | Yes |
| Chronic Health Hazard | No |
| Fire hazard | Yes |
| Sudden release of pressure hazard | No |
| Reactive hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

Revision note No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet