



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 13-Jun-2016

Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name	(+)-Limonene oxide, mixture of cis and trans
Product Code	SC-228412
CAS No	1195-92-2
Pure substance/mixture	Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

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

1.3. 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	Santa Cruz Biotechnology, Inc. Bergheimer Str. 89-2 69115 Heidelberg, Germany +49.6221.4503 0 +1.800.457.3801 europe@scbt.com
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1.4. Emergency telephone number

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

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flammable liquids Category 4 - (H227)

Classification according to 67/548/EEC

Hazard symbols Not dangerous

2.2. Label Elements

Signal word Not classified

Symbols/Pictograms

Hazard statements Not classified
H227 - Combustible liquid

2.3. Other Hazards

Other hazards Combustible liquid
General Hazards Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight 152.23
Formula C₁₀H₁₆O

3.1 Substances

Chemical Name	EC No	CAS No	Weight %	Classification according to 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
(+)-Limonene oxide, mixture of cis and trans	Present	1195-92-2	100	-	Flam. Liq. 4 (H227)

Full text of R-phrases: see section 16

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice Consult a physician if necessary.
Inhalation Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
Skin Contact Wash skin with soap and water.
Eye contact Wash with plenty of water.
Ingestion Never give anything by mouth to an unconscious person. Clean mouth with water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media In case of fire: Use CO₂, dry chemical, or foam for extinction.
Unsuitable Extinguishing Media DO NOT USE WATER.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available
Hazardous combustion products Carbon oxides.

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.
For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. 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.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.
 General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
 Derived No Effect Level (DNEL) No information available
 Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems
 Eye/face protection Wear safety glasses with side shields (or goggles).
 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.
 Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State liquid
 Appearance No information available
 Odor No information available

Property

pH No information available
 Melting point/freezing point No information available
 Boiling point No information available
 Flash point 65 °C CC (closed cup)
 Density 0.930 g/cm³
 Evaporation rate No information available
 Upper flammability limits No information available
 Lower flammability limit No information available
 Vapor pressure No information available
 Vapor density No information available
 Specific gravity No information available
 Water solubility No information available
 Solubility in other solvents No information available

Partition coefficient	No information available
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

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity Not applicable

10.2. Chemical stability

Stability Stable under recommended storage conditions.
Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerization No information available.
Possibility of Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Keep away from any possible contact with water, because of violent reaction and possible flash fire.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents. Water.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Carbon oxides.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.
Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 3,788.60 mg/kg

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
(+)-Limonene oxide, mixture of cis and trans	= 3.8 mL/kg (Rat)		

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity May cause long lasting harmful effects to aquatic life.
Unknown aquatic toxicity 100% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects No information available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Section 14: TRANSPORT INFORMATION

	<u>RID / ADR</u>	<u>IMDG</u>	<u>ICAO (air) / IATA</u>
	Not regulated	Not regulated	Not regulated
14.1 UN/ID no	-	-	-
14.2 Proper shipping name	-	-	-
14.3 Hazard Class	-	-	-
Subsidiary hazard class / Labels	-	-	-
14.4 Packing Group	-	-	-
14.5 Environmental Hazard	-	-	-
14.6 Special Provisions	-	-	-

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National Regulations****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

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) China (IECSC) ENCS (Japan): Philippines (PICCS)

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
(+)-Limonene oxide, mixture of cis and trans	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

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

No information available

Revision note

No information available.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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