



The Power to Question

# SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 04-Feb-2022

Version 2.1

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

### Product identifier

Product Name tert-Butyl hydroperoxide aqueous solution  
Product Code SC-251134

### 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 - Inhalation (Dusts/Mists)  
Germ Cell Mutagenicity  
Organic peroxides  
Flammable liquids

Category 4  
Category 2  
Category 3  
Type F

### Label elements

Signal word  
Hazard statements

Warning  
Harmful if inhaled  
Suspected of causing genetic defects  
Flammable liquid and vapor  
Heating may cause a fire

Symbols/Pictograms



Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
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 only in original container



## Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

## Precautionary Statements - Storage

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction  
 Store locked up Store in a well-ventilated place. Keep cool Store away from other materials Protect from sunlight Store at 4 °C  
 Keep cool

## Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Hazards not otherwise classified (HNOC)

Not applicable

**Other Information**

Other hazards

Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

**NFPA**

Health hazards	3
Flammability	2
Stability	1
Physical and chemical properties	OX

**HMIS**

Health hazards	3
Flammability	2
Physical hazards	3
Personal protection	-

\* = Chronic Health Hazard

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS No	75-91-2
Molecular Weight	90.12
Formula	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
tert-Butyl hydroperoxide	75-91-2	70 - 90	= 370 mg/kg ( Rat ) = 560 mg/kg ( Rat )	= 628 mg/kg ( Rabbit ) = 790 mg/kg ( Rat )	= 1845 mg/m <sup>3</sup> ( Rat ) 4 h = 500 ppm ( Rat ) 4 h
Water	7732-18-5	15 - 40	> 90 mL/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).

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. Call a physician immediately.

Skin Contact

Wash off immediately with plenty of water.

Inhalation

Remove to fresh air Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Immediate medical attention is required If not breathing, give artificial respiration

Ingestion

Drink plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Self-protection of the first aider

Remove all sources of ignition.

**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    May cause fire or explosion; strong oxidizer. flammable.

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.

### Environmental precautions

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

### Methods and material for containment and cleaning up

Methods for containment                Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up                Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. 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. Noxious vapor/odor. Heating may cause a fire or explosion.

### Conditions for safe storage, including any incompatibilities

Storage Conditions                    Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store at 4 °C.



Incompatible materials None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
tert-Butyl hydroperoxide 75-91-2	TWA: 0.1 ppm S*	-	-

### Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas

### Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety 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.
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	Pungent

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	-3 °C
Boiling point	96 °C
Flash point	43 °C
Liquid Density	0.94 g/mL
Evaporation rate	No information available
Upper flammability limits	10.15%
Lower flammability limit	5.75%
Vapor pressure	17 mmHg
Vapor density	3.1
Specific gravity	0.94
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	-1.3
Autoignition temperature	238 °C
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	Heating may cause a fire or explosion.
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	No information available.
------------------	---------------------------

### 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)	529
ATEmix (dermal)	897
ATEmix (inhalation-dust/mist)	2.6 mg/l
ATEmix (inhalation-vapor)	2.6

## 12. ECOLOGICAL INFORMATION

Ecotoxicity Toxic to aquatic life with long lasting effects

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
tert-Butyl hydroperoxide 75-91-2	2.1: 72 h Pseudokirchneriella subcapitata mg/L EC50	57: 96 h Brachydanio rerio mg/L LC50 static 42.3: 96 h Pimephales promelas mg/L LC50 semi-static	-	20: 48 h Daphnia magna mg/L EC50

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

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

Chemical name	Partition coefficient
tert-Butyl hydroperoxide 75-91-2	0.7

## 13. DISPOSAL CONSIDERATIONS

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR



261).  
 Contaminated packaging Do not reuse container.  
 Other Information Waste codes should be assigned by the user based on the application for which the product was used.  
 US EPA Waste Number D001  
 California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
tert-Butyl hydroperoxide 75-91-2	Toxic Ignitable

## 14. TRANSPORT INFORMATION

### DOT

UN/ID no UN3109  
 Hazard Class 5.2  
 Proper shipping name Organic peroxide type F, liquid solution  
 Description UN3109, Organic peroxide type F, liquid solution (tert-Butyl hydroperoxide), 5.2  
 Emergency Response Guide Number 145

### IMDG

UN/ID no UN3109  
 Hazard Class 5.2  
 Proper shipping name Organic peroxide type F, liquid solution  
 Description UN3109, Organic peroxide type F, liquid solution (, tert-Butyl hydroperoxide), 5.2, (43°C c.c.), Marine pollutant  
 Special Provisions 122, 274  
 EmS-No F-J, S-R

### IATA

UN/ID no UN3109  
 Hazard Class 5.2  
 Proper shipping name Organic peroxide type F, liquid solution  
 Description UN3109, Organic peroxide type F, liquid solution (tert-Butyl hydroperoxide), 5.2  
 ERG Code 5L

## 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) Philippines (PICCS)

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
tert-Butyl hydroperoxide	X	X	-	X	-	X	X	X	X	X
Water	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

