

## Material Safety Data Sheet

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Version 1.14

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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1 - Product and Company Information

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Product Name	T-BUTYL HYDROPEROXIDE
Product Number	B2633
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
Technical Phone #	+61 2 9841 0555 (1800 800 097)
Fax	+61 2 9841 0500 (1800 800 096)
Emergency Phone #	+44 8701906777 (1800 448 465)

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
TERT-BUTYL HYDROPEROXIDE 70% SOLUTION IN WATER	75-91-2	200-915-7	None

Ingredient Name	Percent	CAS #	EC no	Annex I Index Number
TERT-BUTYL HYDROPEROXIDE	>= 70	75-91-2	200-915-7	None

Symbols: O-C

R-Phrases: 8-10-20/21/22-34

Contact with combustible material may cause fire. Flammable.  
Harmful by inhalation, in contact with skin and if swallowed.  
Causes burns.

WATER	<= 30	7732-18-5	231-791-2	None
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Formula	C4H10O2
Molecular Weight	90.12 AMU

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May cause fire. Flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for

at least 15 minutes. Remove contaminated clothing and shoes.  
Call a physician.

#### AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

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### 5 - Fire Fighting Measures

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#### EXPLOSION DATA

Sensitivity to Mechanical Impact: May be shock-sensitive.

#### CONDITIONS OF FLAMMABILITY

Vigorously supports combustion.

#### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

#### SPECIAL RISKS

Specific Hazard(s): Combustible liquid. Contact with other material may cause fire. Emits toxic fumes under fire conditions. May accelerate combustion.  
Explosion Hazards: Container explosion may occur under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### ENVIRONMENTAL PRECAUTION(S)

Do not allow material to enter drains or water courses. Avoid contaminating water supply.

#### METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry

place. Keep away from heat and open flame.  
Unsuitable: Do not store near, nor allow contact with, clothing  
and other combustible material.  
Store at 2-8°C

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## 8 - Exposure Controls / Personal Protection

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.  
Hand Protection: Compatible chemical-resistant gloves.  
Eye Protection: Chemical safety goggles.  
Special Protective Measures: Faceshield (8-inch minimum).

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## 9 - Physical and Chemical Properties

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Appearance	Color: Colorless Form: Clear liquid	
Property	Value	At Temperature or Pressure
pH	4.3	
BP/BP Range	96.2 °C	
MP/MP Range	- 3.0 °C	760 mmHg
Flash Point	43 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 5.75 % Upper: 10.15 %	
Vapor Pressure	62 mmHg	45 °C
SG/Density	0.9 g/cm3	
Partition Coefficient	N/A	
Viscosity	4.4 Pas	
Vapor Density	2.07 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Soluble.	

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.  
Conditions to Avoid: Heat. Light.  
Materials to Avoid: Finely powdered metals, Strong acids, Strong bases, Sulfur, Acids, Strong reducing agents, Organic materials.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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### 11 - Toxicological Information

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#### IRRITATION DATA

Skin

Rabbit

70 %

24 H

Remarks: Severe irritation effect

Eyes

Rabbit

Remarks: Severe irritation effect

#### SENSITIZATION

Respiratory: May cause allergic respiratory reaction.

Skin: May cause allergic skin reaction.

#### SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

#### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Readily absorbed through skin. Harmful if absorbed through skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Toxic if inhaled.

Ingestion: Harmful if swallowed.

#### CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

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### 12 - Ecological Information

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#### ELIMINATION

Classification: Not significantly biodegradable.

#### ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish

Species: Brachydanio rerio

Time: 96 h

Value: 57 mg/l

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### 13 - Disposal Considerations

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#### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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## 14 - Transport Information

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### RID/ADR

UN#: 3109  
Class: 5.2  
Proper Shipping Name: Organic peroxide type F, liquid

### IMDG

UN#: 3109  
Class: 5.2  
PG: II  
Subrisk: 8  
Proper Shipping Name: Organic peroxide type F, liquid  
Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

### IATA

UN#: 3109  
Class: 5.2  
Subrisk: 8  
Proper Shipping Name: Organic peroxide type F, liquid  
Inhalation Packing Group I: No  
Technical Name: Required

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: O-C

Oxidizing. Corrosive.

R-PHRASES: 7-10-20/21/22-34-52/53

May cause fire. Flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-PHRASES: 3/7-14-26-36/37/39-45-61

Keep container tightly closed in a cool place. Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

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## 16 - Other Information

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### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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