

## Material Safety Data Sheet

Date Printed: 27/MAY/2005

Date Updated: 05/AUG/2004

Version 1.5

According to 91/155/EEC

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

---

1 - Product and Company Information

---

Product Name	TERT-BUTYLAMINE, 98%
Product Number	B89205
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

---

2 - Composition/Information on Ingredients

---

Product Name	CAS #	EC no	Annex I Index Number
TERT-BUTYLAMINE	75-64-9	200-888-1	None

  

Formula	C4H11N
Molecular Weight	73.14 AMU
Synonyms	2-Aminoisobutane * 2-Amino-2-methylpropane * Butylamine, tertiary * CP 11093 * 1,1-Dimethylethanamine * 1,1-Dimethylethylamine * Erbumine * 2-Methyl-2-propanamine * 2-Propanamine, 2-methyl- (9CI) * Trimethylaminomethane

---

3 - Hazards Identification

---

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Highly flammable. Harmful by inhalation and if swallowed. Causes severe burns.

---

4 - First Aid Measures

---

## 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. Do not induce vomiting.

---

### 5 - Fire Fighting Measures

---

#### EXTINGUISHING MEDIA

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

Unsuitable: Water may be effective for cooling, but may not effect extinguishment.

#### SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back.

Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

---

### 6 - Accidental Release Measures

---

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

Evacuate area. Shut off all sources of ignition.

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

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

#### 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.

---

### 7 - Handling and Storage

---

#### 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. Keep away from heat, sparks, and open flame.

SPECIAL REQUIREMENTS: Handle and store under inert gas.

---

### 8 - Exposure Controls / Personal Protection

---

#### ENGINEERING CONTROLS

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

#### GENERAL HYGIENE MEASURES

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

#### EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	15 mg/m3
		5 ppm

Remarks: LH

#### EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	15 mg/m3
		5 ppm

Remarks: 4

Remarks: H

#### EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	15 mg/m3
		5 ppm

Remarks: H

#### 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).

---

### 9 - Physical and Chemical Properties

---

Appearance	Color: Colorless Form: Clear liquid	
Property	Value	At Temperature or Pressure
pH	12.1	25 °C Concentration: 100 g/l
BP/BP Range	44 - 46 °C	
MP/MP Range	-67 °C	
Flash Point	-38 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	380 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 1.7 % Upper: 9.8 %	
Vapor Pressure	294.69 mmHg	20 °C
SG/Density	0.693 g/cm3	
Partition Coefficient	Log Kow: 0.4	
Viscosity	N/A	
Vapor Density	2.5 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: Miscible.	

---

### 10 - Stability and Reactivity

---

#### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

---

### 11 - Toxicological Information

---

RTECS NUMBER: E03330000

#### ACUTE TOXICITY

LD50

Oral

Rat

464 mg/kg

LD50

Oral

Rat

180 mg/kg

LD50

Oral

Rat

82.3 mg/kg

LD50

Oral

Rat

78.1 mg/kg

LD50

Oral

Mouse

900 mg/kg

LD50

Oral

Rat

44 mg/kg

Remarks: Behavioral:Food intake (animal). Lungs, Thorax, or Respiration:Pulmonary emboli. Liver:Other changes.

LC50

Inhalation

Rat

3,800 mg/m3

4H

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Etosis. Lungs, Thorax, or Respiration:Dyspnea. Blood:Hemorrhage.

#### IRRITATION DATA

Skin

Rabbit

Remarks: Severe irritation effect

#### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynxand bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing,

wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Material may be absorbed through intact skin in harmful amounts.

Eye Contact: Causes burns.

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

Ingestion: Ingestion can cause immediate burning pain in the mouth, throat, abdomen; severe swelling of the larynx and skeletal paralysis affecting the ability to breathe, circulatory shock and convulsions. Harmful if swallowed.

---

#### 12 - Ecological Information

---

No data available.

#### ELIMINATION

Elimination: > 70 %

BIOACCUMULATION POTENTIAL: No indication of bioaccumulation.

#### ECOTOXICOLOGICAL EFFECTS

Test Type: flow-through bioassay

Species: *Lepomis macrochirus* (Bluegill)

Time: 96 h

Value: 22 mg/l

Test Type: LC50 Fish

Species: *Onchorhynchus mykiss* (Rainbow trout)

Time: 96 h

Value: 28 mg/l

Test Type: EC50 Daphnia

Species: *Daphnia*

Time: 24 h

Value: 136 mg/l

Test Type: EC50 Algae

Species: *Scenedesmus subspicatus*

Time: 96 h

Value: 16 mg/l

---

#### 13 - Disposal Considerations

---

#### SUBSTANCE DISPOSAL

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

---

#### 14 - Transport Information

---

#### RID/ADR

UN#: 3286

Class: 3

PG: II  
Proper Shipping Name: Flammable liquid, toxic,  
corrosive, n.o.s.

#### IMDG

UN#: 3286  
Class: 3  
PG: II  
Subrisk: 6.1/8  
Proper Shipping Name: FLAMMABLE LIQUID, TOXIC,  
CORROSIVE, N.O.S.  
Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

#### IATA

UN#: 3286  
Class: 3  
PG: II  
Subrisk: 6.18  
Proper Shipping Name: Flammable liquid, toxic,  
corrosive, n.o.s.  
Inhalation Packing Group I: No  
Technical Name: Required

---

### 15 - Regulatory Information

---

#### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: F C

Highly Flammable. Corrosive.

R-PHRASES: 11 20/22 35

Highly flammable. Harmful by inhalation and if swallowed.

Causes severe burns.

S-PHRASES: 16 26 36/37/39 45

Keep away from sources of ignition - no smoking. 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).

#### COUNTRY SPECIFIC INFORMATION

##### Germany

WGK: 1

##### SWITZERLAND

SWISS POISON CLASS: 2

---

### 16 - Other Information

---

#### 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.

DISCLAIMER

For R&D use only. Not for drug, household or other uses.