

## SAFETY DATA SHEET

Version 4.6  
Revision Date 02/25/2015  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	<i>tert</i> -Butylamine	
Product Number	:	B89205	
Brand	:	Aldrich	
Product Use	:	For laboratory research purposes.	
Supplier	:	Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA	Manufacturer : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 9058299500	
Fax	:	+1 9058299292	
Emergency Phone # (For both supplier and manufacturer)	:	1-800-424-9300	
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956	

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### WHMIS Classification

B2	Flammable liquid	Flammable liquid
D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly toxic by inhalation
D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
E	Corrosive Material	Corrosive to metals Corrosive to skin Corrosive

#### GHS Classification

Flammable liquids (Category 2)  
Acute toxicity, Oral (Category 4)  
Acute toxicity, Inhalation (Category 3)  
Skin corrosion/irritation (Sub-category 1A)  
Serious eye damage/eye irritation (Category 1)  
Acute aquatic toxicity (Category 3)  
Chronic aquatic toxicity (Category 3)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.

H412	Harmful to aquatic life with long lasting effects.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

#### HMIS Classification

Health hazard:	3
Flammability:	3
Physical hazards:	0

#### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns. Causes skin irritation.
<b>Eyes</b>	Causes eye burns. Causes severe eye burns. Causes eye irritation.
<b>Ingestion</b>	Toxic if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	: 2-Amino-2-methylpropane
Formula	: C <sub>4</sub> H <sub>11</sub> N
Molecular weight	: 73.14 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>tert-Butylamine</b>			
75-64-9	200-888-1	-	<=100%

### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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**5. FIREFIGHTING MEASURES****Conditions of flammability**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)

**Explosion data - sensitivity to mechanical impact**

No data available

**Explosion data - sensitivity to static discharge**

No data available

**Further information**

Use water spray to cool unopened containers.

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**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

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**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Handle and store under inert gas.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 120 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374  
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form clear, liquid

Colour colourless

### Safety data

pH 12.1 at 100 g/l at 25 °C (77 °F)

Melting point/freezing point Melting point/range: -67 °C (-89 °F) - lit.

Boiling point 46 °C (115 °F) - lit.

Flash point -37.99 °C (-36.38 °F) - closed cup

Ignition temperature 380 °C (716 °F)

Auto-ignition temperature No data available

Lower explosion limit 1.7 %(V)

Upper explosion limit 9.8 %(V)

Vapour pressure 392.9 hPa (294.7 mmHg) at 20 °C (68 °F)  
1,441.2 hPa (1,081.0 mmHg) at 55 °C (131 °F)

Density	0.696 g/cm <sup>3</sup> at 25 °C (77 °F)
Water solubility	ca. 1,000 g/l at 25 °C (77 °F)
Partition coefficient: n-octanol/water	log Pow: 0.4
Relative vapour density	2.53 - (Air = 1.0)
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Vapours may form explosive mixture with air.

### Conditions to avoid

Heat, flames and sparks.

### Materials to avoid

Strong oxidizing agents, Strong acids

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)  
Other decomposition products - No data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - Rat - 464 mg/kg

#### Inhalation LC50

LC50 Inhalation - Rat - 4 h - 3,800 mg/m<sup>3</sup>

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

#### Dermal LD50

No data available

#### Other information on acute toxicity

No data available

### Skin corrosion/irritation

Skin - Rabbit - Severe skin irritation

### Serious eye damage/eye irritation

No data available

### Respiratory or skin sensitisation

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### Reproductive toxicity

No data available

### Teratogenicity

No data available

### Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

### Aspiration hazard

No data available

### Potential health effects

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns. Causes skin irritation.
<b>Eyes</b>	Causes eye burns. Causes severe eye burns. Causes eye irritation.

### Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Synergistic effects

No data available

### Additional Information

RTECS: EO3330000

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## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish	flow-through test - Lepomis macrochirus (Bluegill) - 22 mg/l - 96 h
	LC50 - Oncorhynchus mykiss (rainbow trout) - 28 mg/l - 96 h

### Persistence and degradability

Biodegradability

### Bioaccumulative potential

Does not bioaccumulate.

### Mobility in soil

No data available

### PBT and vPvB assessment

No data available

### Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

No data available

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## 13. DISPOSAL CONSIDERATIONS

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 2734 Class: 8 (3) Packing group: I  
 Proper shipping name: Amines, liquid, corrosive, flammable n.o.s. (tert-Butylamine)  
 Reportable Quantity (RQ): 1000 lbs  
 Marine pollutant: No  
 Poison Inhalation Hazard: No

**IMDG**

UN number: 2734 Class: 8 (3) Packing group: I EMS-No: F-E, S-C  
 Proper shipping name: AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. (tert-Butylamine)  
 Marine pollutant: No

**IATA**

UN number: 2734 Class: 8 (3) Packing group: I  
 Proper shipping name: Amines, liquid, corrosive, flammable, n.o.s. (tert-Butylamine)

**15. REGULATORY INFORMATION****WHMIS Classification**

B2	Flammable liquid	Flammable liquid
D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly toxic by inhalation
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E	Corrosive Material	Corrosive to metals Corrosive to skin Corrosive

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**16. OTHER INFORMATION****Text of H-code(s) and R-phrases mentioned in Section 3****Further information**

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