



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

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# MATERIAL SAFETY DATA SHEETS

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## Tributylamine

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### 1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: Tributylamine  
Synonym(s): N,N-Dibutyl-1-butanamine; Tri-n-butylamine; Tris-n-butylamine  
Molecular Formula:  $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_3\text{N}$   
Molecular Weight: 185.36

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No	Percent	Hazardous
1-Butanamine, n,n-dibutyl-	102-82-9	90 - 100%	Yes

### 3. HAZARDS IDENTIFICATION

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. COMBUSTIBLE LIQUID AND VAPOR. MAY CAUSE SENSITIZATION.

NFPA Hazard Ratings: Health - 2, Flammability - 2, Reactivity - 1

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

#### Potential Health Effects

**Inhalation:** Inhalation of vapors irritates the respiratory tract. May cause distressed breathing, coughing. May cause central nervous system effects. At room temperature the substance has such a low vapor pressure that inhalation of the vapor is unlikely.

**Ingestion:** Corrosive. Harmful if swallowed. May cause tissue burns, abdominal pain, nausea.

**Skin Contact:** Corrosive to the skin. May cause redness, pain, skin burns. Toxic. Harmful amounts may be absorbed through the skin. Sensitization has been observed.

**Eye Contact:** Corrosive to the eyes. May cause redness, pain, blurred vision.

**Chronic Exposure:** Repeated exposure may cause symptoms similar to those listed for acute effects.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

#### **4. FIRST AID MEASURES**

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:** If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately. Call a physician immediately. Aspiration hazard.

**Skin Contact:** Remove any contaminated clothing and shoes. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

#### **5. FIRE FIGHTING MEASURES**

**Fire:** Flash point: 86C (187F) OC  
Flammable limits in air % by volume:  
l<sub>el</sub>: 0.8; u<sub>el</sub>: 6.4  
Combustible Liquid.

**Explosion:** Above the flash point, explosive vapor-air mixtures may be formed.

**Fire Extinguishing Media:** Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## 6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

## 7. HANDLING AND STORAGE

Protect against physical damage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials. Storage and use areas should be No Smoking areas. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Limits: None established.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow clear liquid.

Odor: Amine-like odor.

Solubility: Sparingly soluble in water.

Density: 0.78

pH: No information found.  
% Volatiles by volume @ 21C (70F): 100  
Boiling Point: 216C (421F)  
Melting Point: -70C (-94F)  
Vapor Density (Air=1): 6.4  
Vapor Pressure (mm Hg): 0.29 @ 25C (77F)  
Evaporation Rate (BuAc=1): No information found.

## 10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization: Will not occur.

Incompatibilities: Acids, metals (such as aluminum and zinc), strong oxidizers.

Conditions to Avoid: Heat, flame, other sources of ignition, Hygroscopic: when dissolved in water it is a strong base and reacts violently with acids, and is corrosive to aluminum and zinc.

## 11. TOXICOLOGICAL INFORMATION

Oral rat LD50: 114 mg/kg; skin rabbit LD50: 250 ul/kg

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
1-Butanamine, n,n-dibutyl- (102-82-9)	No	No	None

## 12. ECOLOGICAL INFORMATION

Environmental Fate: When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day. This material is not expected to significantly bioaccumulate. This material has an estimated bioconcentration factor (BCF) of less than 100.



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1-Butanamine, n,n-dibutyl- (102-82-9) No No No No

-----\Federal, State & International Regulations - Part 2\-----

-RCRA- -TSCA-  
Ingredient CERCLA 261.33 8(d)

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1-Butanamine, n,n-dibutyl- (102-82-9) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No  
Reactivity: No (Pure / Liquid)

Australian Hazchem Code: 3X

Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. OTHER INFORMATION

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.