





# Material Safety Data Sheet

HAZARD WARNINGS			RISK PHRASES	PROTECTIVE CLOTHING
			Toxic compound, do not ingest or inhale. Avoid all contact with this material. Flammable material; avoid heat and sources of ignition. Corrosive to eyes and skin on contact.	

## Section I. Chemical Product and Company Identification

Chemical Name	tert-Butylamine		
Catalog Number	B0709	Supplier	TCI America 9211 N. Harborgeate St. Portland OR 1-800-423-8616
Synonym	2-Amino-2-methylpropane		
Chemical Formula	(CH <sub>3</sub> ) <sub>3</sub> CNH <sub>2</sub>		
CAS Number	75-64-9	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
tert-Butylamine	75-64-9	Min. 98.0 (GC)	Not available.	Mouse LD <sub>50</sub> (oral) 900 mg/kg Rat LD <sub>50</sub> (oral) 78 mg/kg Rat LC <sub>50</sub> (inhalation) 3800 mg/m <sup>3</sup> / 4H

## Section III. Hazards Identification

Acute Health Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> : Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.


## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

<b>Section V. Fire and Explosion Data</b>			
Flammability	Flammable.	Auto-Ignition	Not available.
Flash Points	-32°C (-25.6°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , alcohol foam or water spray. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.		

<b>Section VI. Accidental Release Measures</b>	
Spill Cleanup Instructions	Toxic liquid. Flammable liquid. Corrosive material. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

<b>Section VII. Handling and Storage</b>	
Handling and Storage Information	TOXIC. FLAMMABLE. CORROSIVE. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes. Always store away from incompatible compounds such as oxidizing agents, acids.

<b>Section VIII. Exposure Controls/Personal Protection</b>	
Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Faceshield. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
	
Exposure Limits	Not available.

<b>Section IX. Physical and Chemical Properties</b>			
Physical state @ 20°C	Colorless liquid.	Solubility	Not available.
Specific Gravity	0.7		
Molecular Weight	73.14	Partition Coefficient	Not available.
Boiling Point	46°C	Vapor Pressure	1300 mm of Hg (@ 50°C)
Melting Point	Not available.	Vapor Density	2.5 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

<b>Section X. Stability and Reactivity Data</b>	
Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Highly reactive with oxidizing agents, acids.

**Section XI. Toxicological Information**

RTECS Number	EO3330000
Routes of Exposure	Eye contact. Inhalation. Ingestion. Skin contact.
Toxicity Data	Mouse LD <sub>50</sub> (oral) 900 mg/kg Rat LD <sub>50</sub> (oral) 78 mg/kg Rat LC <sub>50</sub> (inhalation) 3800 mg/m <sup>3</sup> /4H
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Acute Toxic Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.


**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	tert-Butylamine may be released to the environment in wastewater and air effluents generated at sites of its commercial production or use as an intermediate. If released to soil, tert-butylamine may be susceptible to significant leaching. It has been detected in a leachate from a municipal waste disposal site. tert-Butylamine may be expected to evaporate quite rapidly from dry impervious surfaces. Sufficient data are not available to predict the significance of biodegradation in soil or natural water. The results of several screening studies suggest that tert-butylamine may be relatively resistant to environmental biodegradation or may undergo significant biodegradation under properly acclimated conditions. If released to water, tert-butylamine is not expected to significantly adsorb to sediments or to bioconcentrate. The volatilization half-life from a river one meter deep flowing 1 m/sec with a wind velocity of 3 m/sec is estimated to be 1.95 days. The volatilization half-life from a similar river 10 m deep is estimated to be 23.5 days. If released to air, tert-butylamine should exist almost entirely in the vapor-phase due to its high vapor pressure. The half-life for the vapor-phase reaction with photochemically produced hydroxyl radicals has been estimated to be 1.07 months in a typical atmosphere. Due to the complete water solubility of tert-butylamine, physical removal from the atmosphere by washout or by dissolution into clouds with subsequent rainfall may be possible. Occupational exposure by inhalation or dermal routes may occur.(HSDB)

**Section XIII. Disposal Considerations**

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.
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**Section XIV. Transport Information**

DOT Classification	DOT CLASS 3: Flammable liquid. DOT CLASS 6.1: Toxic material. DOT CLASS 8: Corrosive liquid.
PIN Number	UN3286
Proper Shipping Name	Flammable liquids, toxic, corrosive,n.o.s.
Packing Group (PG)	II
DOT Pictograms	

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This product is <b>ON</b> the EPA Toxic Substance Control Act (TSCA) inventory.
WHMIS Classification (Canada)	WHMIS CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). WHMIS CLASS E: Corrosive liquid.
EINECS Number (EEC)	200-888-1
EEC Risk Statements	R11- Highly flammable. R18- In use, may form flammable/explosive vapor-air mixture. R35- Causes severe burns. R41- Risk of serious damage to eyes.
Japanese Regulatory Data	Not available.

**Continued on Next Page****Emergency phone number (800) 424-9300**

**Section XVI. Other Information****Version 1.0****Validated on 5/30/1997.****Printed 1/22/2005.****Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

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