

# Material Safety Data Sheet

## n-Butylamine

ACC# 15500

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** n-Butylamine

**Catalog Numbers:** AC107800000, AC107800010, AC107800025, AC107800050, AC219740000, AC219740010, AC219742500, B415-500

**Synonyms:** 1-Aminobutane; 1-Butanamine; Butylamine; MNBA.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
109-73-9	n-Butylamine	>98	203-699-2

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -12 deg C.

**Danger!** Extremely flammable liquid and vapor. Vapor may cause flash fire. Causes eye and skin burns. Causes digestive and respiratory tract burns. Harmful if swallowed, inhaled, or absorbed through the skin.

**Target Organs:** Eyes, skin, mucous membranes.

#### Potential Health Effects

**Eye:** Causes severe eye burns. May result in corneal injury. Low vapor concentrations may cause a temporary visual disturbance known as 'blue haze' or 'halo vision'.

**Skin:** Harmful if absorbed through the skin. Causes skin burns. n-Butylamine was found to be not sensitizing in guinea pig maximization test. (BASF)

**Ingestion:** Harmful if swallowed. Causes gastrointestinal tract burns.

**Inhalation:** Harmful if inhaled. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

**Chronic:** No information found.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

**Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

**Ingestion:** If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. May accumulate static electrical charges, and may cause ignition of its own vapors. Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** Use water spray, dry chemical, "alcohol resistant" foam, or carbon dioxide.

**Flash Point:** -12 deg C ( 10.40 deg F)

**Autoignition Temperature:** 312 deg C ( 593.60 deg F)

**Explosion Limits, Lower:** 1.7%

**Upper:** 9.8%

**NFPA Rating:** (estimated) Health: 3; Flammability: 3; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Use water spray to cool and disperse vapors, protect personnel, and dilute spills to form nonflammable mixtures.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Do not breathe vapor or mist.

**Storage:** Keep away from sources of ignition. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Isolate from oxidizing materials and acids.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
n-Butylamine	Skin - potential significant contribution to overall exposure by the cutaneous route; 5 ppm Ceiling	300 ppm IDLH	5 ppm Ceiling; 15 mg/m3 Ceiling

**OSHA Vacated PELs:** n-Butylamine: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear, colorless

**Odor:** ammonia-like

**pH:** 11.8 (0.1M soln)

**Vapor Pressure:** 82 mm Hg @ 20 deg C

**Vapor Density:** 2.5 (air=1)

**Evaporation Rate:** 7.3 (butyl acetate = 1)

**Viscosity:** 0.5 mPa s 20 C

**Boiling Point:** 78 deg C

**Freezing/Melting Point:** -49 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Soluble.

**Specific Gravity/Density:** 0.74 (water=1)

**Molecular Formula:** C<sub>4</sub>H<sub>11</sub>N

**Molecular Weight:** 73.13

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions. Becomes yellow over time.

**Conditions to Avoid:** Ignition sources, excess heat, confined spaces.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, copper.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, nitrogen oxides (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>), amines.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 109-73-9: EO2975000

**LD50/LC50:**

CAS# 109-73-9:

Dermal, guinea pig: LD50 = 500 uL/kg;  
Draize test, rabbit, eye: 250 ug/24H Severe;  
Inhalation, mouse: LC50 = 800 mg/m<sup>3</sup>/2H;  
Oral, mouse: LD50 = 430 mg/kg;  
Oral, rat: LD50 = 366 mg/kg;  
Skin, rabbit: LD50 = 850 uL/kg;

**Carcinogenicity:**

CAS# 109-73-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: LC50 = 268 mg/L; 96 Hr.; Unspecified Fish: Bluegill/Sunfish: LC50 = 24-32 mg/L; 96 Hr.; Static Condition Water flea Daphnia: LC50 = 75 mg/L; 24 Hr.; Static Condition Bacteria: Phytobacterium phosphoreum: EC50 = 18.3-41.1 mg/L; 5,15,25,30 Minutes; Microtox test, 15 degrees C No data available.

**Environmental:** If n-butylamine is released to the soil, it will not adsorb to the soil; It will be expected to leach rapidly to the groundwater due to its lack of adsorption and high water solubility. Hydrolysis will not be a significant removal process. No information on biodegradation of n-butylamine in soils or groundwater were found, but screening studies suggest that biodegradation may be important.

**Physical:** Reaction with hydroxyl radicals will be the fastest chemical removal process for n-butylamine in the atmosphere (estimated half-life of 5.26 days).

**Other:** Using a reported log octanol water partition coefficient of 0.97, an estimated BCF of 3.2 was calculated. Based on this estimated BCF, n-butylamine will not bioconcentrate in aquatic organisms.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	N-BUTYLAMINE	n-Butylamine
<b>Hazard Class:</b>	3	3(8)
<b>UN Number:</b>	UN1125	UN1125
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

### US FEDERAL

**TSCA**

CAS# 109-73-9 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

CAS# 109-73-9: 1000 lb final RQ; 454 kg final RQ

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**SARA Codes**

CAS # 109-73-9: immediate, delayed, fire.

**Section 313** No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

CAS# 109-73-9 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 109-73-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

F C

**Risk Phrases:**

R 11 Highly flammable.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 35 Causes severe burns.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 29 Do not empty into drains.

S 3 Keep in a cool place.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**WGK (Water Danger/Protection)**

CAS# 109-73-9: 1

**Canada - DSL/NDSL**

CAS# 109-73-9 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B2, E, D1B.

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

**Canadian Ingredient Disclosure List**

CAS# 109-73-9 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 6/01/1999

**Revision #4 Date:** 4/07/2004

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