



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

MATERIAL SAFETY DATA SHEETS

Manufacturer: PHARMCO-AAPER
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n-Butylamine

1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: n-Butylamine
Synonym(s): 1-Aminobutane; 1-Butanamine; Butylamine; MNBA.
Molecular Formula: $\text{CH}_3(\text{CH}_2)_3\text{NH}_2$
Molecular Weight: 73.14

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No	Percent	Hazardous
n-Butylamine	109-73-9	100%	Yes

3. HAZARDS IDENTIFICATION

WARNING! HARMFUL IF ABSORBED THROUGH THE SKIN. CORROSIVE. HIGHLY FLAMMABLE. HARMFUL IF SWALLOWED. CAUSES EYE AND SKIN BURNS. CAUSES DIGESTIVE AND RESPIRATORY TRACT BURNS.

NFPA Hazard Ratings: Health - 3, Flammability - 3, Reactivity - 0

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

Eye: Causes severe eye burns. May result in corneal injury.

Skin: Causes severe skin irritation. Harmful if absorbed through the skin. Causes skin burns. May cause deep, penetrating ulcers of the skin.

Ingestion: Harmful if swallowed. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause burns to the digestive tract.

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

Chronic: No information found.

4. FIRST AID MEASURES

Eyes: Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation is required (at least 30 minutes).

Skin: Get medical aid immediately. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. DO NOT use mouth-to-mouth respiration.

Notes to Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Autoignition Temperature: 290 deg C (554.00 deg F)

Flash Point: -12 deg C (32.00 deg F)(estimated)

Explosion Limits: Lower: 1.7 Upper: 9.8

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. 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. Flammable Liquid. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire. Vapors may form an explosive mixture with air. Containers may explode if exposed to fire.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Do NOT get water inside containers. For large fires, use water spray, fog or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

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

Spills/Leaks: Use water spray to dilute spill to a non-flammable mixture. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate Personal protection. (See Exposure Controls, Personal Protection section). Scoop up with a nonsparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Provide ventilation.

7. HANDLING AND STORAGE

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Do not add nitrites or other nitrosating agents; a nitrosamine, which may cause cancer, may be formed. Empty containers may contain explosive vapors. Flush empty containers with water to remove residual flammable liquid and vapors. 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

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

Exposure Limits

ACGIH skin - potential for cutaneous absorption: C 5 ppm; C 15 mg/m³

NIOSH: 300 ppm IDLH

OSHA - Final PELs: C 5 ppm; C 15 mg/m³

OSHA Vacated PELs: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear butyl rubber gloves, apron, and/or clothing.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: clear

Odor: ammonia-like

pH: Not available.

Vapor Pressure: 72 mm Hg @ 20C
Vapor Density: 2.5 (air=1)
Evaporation Rate:
Viscosity: 0.5 mPa s 20 C
Boiling Point: 78 deg C
Freezing/Melting Point:-50 deg C
Decomposition Temperature:Not available.
Solubility: Soluble in water.
Specific Gravity/Density:0.8 (water=1)

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, oxidizers.

Incompatibilities with Other Materials: Acids, cellulose nitrate, copper, copper alloys, oxidizing agents, aluminum.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

11. TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 109-73-9: EO2975000

LD50/LC50:

CAS# 109-73-9:

Inhalation, mouse: LC50 =800 mg/m³/2H;

Oral, mouse: LD50 = 430 mg/kg;

Oral, rat: LD50 = 366 mg/kg;

Skin, rabbit: LD50 = 850 mg/kg;

Carcinogenicity:

CAS# 109-73-9: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: Please refer to RTECS EO2975000 for additional data.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Environmental Fate: In soil, substance will readily leach to groundwater. In water, substance will biodegrade and evaporate. In atmosphere, substance will react with hydroxyl radicals (T1/2=.479 days)

Physical/Chemical: No information available.

Other: Please refer to the Handbook of Environmental Fate and Exposure Data for additional information.

13. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA D-Series Maximum Concentration of Contaminants: None listed.

RCRA D-Series Chronic Toxicity Reference Levels: None listed.

RCRA F-Series: None listed.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

14. TRANSPORT INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name: n-Butylamine

Hazard Class: 3

UN/NA: UN1125

Packing Group: II

International (Water, I.M.O.)

Proper Shipping Name: n-Butylamine

Hazard Class: 3.2, 8

UN/NA: UN1125

Packing Group: II

International (Air, I.C.A.O.)

Proper Shipping Name: n-Butylamine

Hazard Class: 3, 8

UN/NA: UN1125

Packing Group: II

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.

SARA

Section 302 (RQ): CAS# 109-73-9: final RQ = 1000 pounds (454 kg)

Section 302 (TPQ): None of the chemicals in this product have a TPQ.

SARA Codes: CAS # 109-73-9: acute, chronic, flammable.

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 depletors. This material does not contain any Class 2 Ozone depletors.

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, Florida, Pennsylvania, Minnesota, Massachusetts.

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. S36/37/39 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

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

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

CAS# 109-73-9 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 109-73-9: OEL-AUSTRALIA: TWA 5 ppm (15 mg/m³); Skin OEL-AUSTRIA: TWA 5 ppm (15 mg/m³); Skin OEL-BELGIUM: STEL 5 ppm (15 mg/m³); Skin OEL-DENMARK: STEL 5 ppm (15 mg/m³); Skin OEL-FINLAND: STEL 5 ppm (15 mg/m³); Skin OEL-FRANCE: STEL 5 ppm (15 mg/m³) OEL-GERMANY: TWA 5 ppm (15 mg/m³); Skin OEL-JAPAN: STEL 5 ppm (15 mg/m³) OEL-THE NETHERLANDS: TWA 5 ppm (15 mg/m³); Skin OEL-THE PHILIPPINES: TWA 5 ppm (15 mg/m³); Skin OEL-RUSSIA: STEL 5 ppm (10 mg/m³); Skin OEL-SWEDEN: STEL 5 ppm (15 mg/m³); Skin OEL-SWITZERLAND: TWA 5 ppm (15 mg/m³); STEL 25 ppm (75 mg/m³); Skin OEL-THAILAND: TWA 5 ppm (15 mg/m³) OEL-TURKEY: TWA 5 ppm (15 mg/m³); Skin OEL-UNITED KINGDOM: TWA 5 ppm (15 mg/m³); STEL 5 ppm; Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

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.