

Material Safety Data Sheet

Butyl acetate

Section 1 - Chemical Product

MSDS Name: n-Butyl acetate

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
123-86-4	n-Butyl acetate	>98	204-658-1

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 22 deg C.

Warning! Flammable liquid and vapor. Breathing vapors may cause drowsiness and dizziness. Causes eye and respiratory tract irritation. Repeated exposure may cause skin dryness or cracking.

Target Organs: Central nervous system, respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Vapors cause eye irritation.

Skin: Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Not expected to cause an allergic skin reaction. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts. Fifty subjects underwent repeated insult patch-testing with n-butyl acetate. Patches containing 0.5 ml of butyl acetate were applied for nine 24-hour applications over a 3-week period; challenge patches were applied 10 to 14 days after the final induction application. No subject was sensitized.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large amounts may cause CNS depression.

Inhalation: Causes respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis.

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.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

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. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Liquid will float and may reignite on the surface of water. Flammable liquid and vapor. May accumulate static electrical charges, and may cause ignition of its own vapors. 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: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Water may be ineffective.

Flash Point: 22 deg C (71.60 deg F)

Autoignition Temperature: 407 deg C (764.60 deg F)

Explosion Limits, Lower: 1.3

Upper: 7.6

NFPA Rating: (estimated) Health: 2; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

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. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. 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. Avoid breathing vapor.

Storage: Keep away from sources of ignition. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
n-Butyl acetate	150 ppm TWA; 200 ppm STEL	150 ppm TWA; 710 mg/m ³ TWA 1700 ppm IDLH	150 ppm TWA; 710 mg/m ³ TWA

OSHA Vacated PELs: n-Butyl acetate: 150 ppm TWA; 710 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: 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: ester-like - sweet, fruity odor

pH: Not available.

Vapor Pressure: 11.5 mm Hg @ 25 deg C

Vapor Density: 4.0 (air=1)

Evaporation Rate: 5.8 (CCl₄=1)

Viscosity: 0.73 cps @ 20 deg C

Boiling Point: 125 - 126 deg C

Freezing/Melting Point: -77 deg C

Decomposition Temperature: Not available.

Solubility: Slightly soluble.
Specific Gravity/Density: 0.8800 @ 20°C
Molecular Formula: C₆H₁₂O₂
Molecular Weight: 116.16

Section 10 - Stability and Reactivity

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

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

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, nitrates, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), potassium tert-butoxide, Reacts w/H₂O on standing to form acetic acid & n-butyl alcohol. This is a very slow reaction..

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 123-86-4: AF7350000

LD50/LC50:

CAS# 123-86-4:

Draize test, rabbit, eye: 100 mg Moderate;
Draize test, rabbit, skin: 500 mg/24H Moderate;
Inhalation, mouse: LC50 = 6 gm/m³/2H;
Inhalation, rat: LC50 = 390 ppm/4H;
Oral, mouse: LD50 = 6 gm/kg;
Oral, rabbit: LD50 = 3200 mg/kg;
Oral, rat: LD50 = 10768 mg/kg;
Skin, rabbit: LD50 = >17600 mg/kg;

Carcinogenicity:

CAS# 123-86-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: Exposure to n-butyl acetate vapors throughout gestation did not cause significant teratogenicity in rabbits, rats, or mice.

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 18.0 mg/L; 96 Hr.; Unspecified Fish:

Bluegill/Sunfish: LC50 = 100.0 mg/L; 96 Hr.; Static condition Water flea EC50 = 44.0 mg/L; 48 Hr.; 23 degrees C Algae: LC50 = 320.0 mg/L; 96 Hr.; Unspecified Bacteria: Phytobacterium phosphoreum: EC50 = 3100.0-130 mg/L; 5, 15 minutes; Microtox test, 15 degrees C Daphnia: Daphnia: 44-205 mg/l; 96 H; LC50 No data available.

Environmental: Based on estimated Koc values of 34 and 233, n-butyl acetate may be subject to moderate-to-high leaching. Volatilization from dry soil surfaces is likely to be rapid. n-Butyl acetate may be susceptible to significant biodegradation in natural water.

Physical: n-Butyl acetate will exist almost entirely in the vapor-phase in the ambient atmosphere due to its relatively high vapor pressure. The half-life for the vapor-phase reaction of n-butyl acetate with photochemically produced hydroxyl radicals has been estimated to be about 6 days in an average atmosphere indicating that this reaction will be the dominant removal mechanism.

Other: ThOD: 2.207 g oxygen/g BOD-5: 1.020 g oxygen/g BOD-20: 1.45 g oxygen/g

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
Shipping Name:	BUTYL ACETATES	BUTYL ACETATES
Hazard Class:	3	3
UN Number:	UN1123	UN1123
Packing Group:	II	II
Additional Info:		FLASHPOINT 22 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 123-86-4 is listed on the TSCA inventory.

Health & Safety Reporting List

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

Chemical Test Rules

CAS# 123-86-4: 40 CFR 799.5000

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# 123-86-4: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 123-86-4: immediate, 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# 123-86-4 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# 123-86-4 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:

Not available.

Risk Phrases:

R 10 Flammable.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 25 Avoid contact with eyes.

WGK (Water Danger/Protection)

CAS# 123-86-4: 1

Canada - DSL/NDSL

CAS# 123-86-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

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# 123-86-4 is listed on the Canadian Ingredient Disclosure List.