

# Butyl Acetate

## 1. Product Identification

**Synonyms:** 1-Butyl acetate; butyl ethanoate; acetic acid, n-butyl ester

**CAS No.:** 123-86-4

**Molecular Weight:** 116.16

**Chemical Formula:** C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
n-Butyl Acetate	123-86-4	min99.5%	Yes

## 3. Hazards Identification

### Emergency Overview

**WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE IRRITATION TO EYES. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.**

Health Rating: 2 - Moderate (Life)

Flammability Rating: 2 - Moderate

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: Red (Flammable)

### Potential Health Effects

#### Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. High concentrations have a narcotic effect.

**Ingestion:**

Irritant to tissues. Sore throat, abdominal pain, nausea, vomiting, diarrhea are the symptoms. Expected to have a narcotic effect. One ounce may produce severe poisoning.

**Skin Contact:**

This material degreases the skin. Irritation and discoloration of the skin are symptoms. Skin allergy occasionally develops. Persons who have become allergic can develop rash upon future exposure to low levels.

**Eye Contact:**

Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.

**Chronic Exposure:**

Repeated or prolonged skin contact may defat the skin and produce irritation and dermatitis. Kidney and liver damage are reported in animals.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or 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. Get medical attention.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**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: 26C (79F) CC



## Material Safety Data Sheet

Autoignition temperature: 425C (797F)

Flammable limits in air % by volume:

l<sub>el</sub>: 1.7; u<sub>el</sub>: 7.6

### **Explosion:**

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

### **Fire Extinguishing Media:**

Dry chemical, alcohol foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool.

### **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! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

## **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 attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death. 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:**

-OSHA Permissible Exposure Limit (PEL):

150 ppm (TWA)

- ACGIH Threshold Limit Value (TLV)

150 ppm (TWA), 200 ppm (STEL)

#### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. 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.

#### **Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded, a half-face organic vapor respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece 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:**

Maintain eye wash fountain and quick-drench facilities in work area. Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible.

### **9. Physical and Chemical Properties**

#### **Appearance:**

Clear, colorless liquid.

#### **Odor:**

Mild, fruity odor.

#### **Solubility:**

Slightly soluble in water (ca. 0.7% @ 20C)

**Specific Gravity:**

0.8822 at 20C/20C

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

100

**Boiling Point:**

126C (259F)

**Melting Point:**

-77C (-107F)

**Vapor Density (Air=1):**

4.0

**Vapor Pressure (mm Hg):**

15 @ 25C (77F)

**Evaporation Rate (BuAc=1):** 1

## ***10. Stability and Reactivity***

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Dangerous when exposed to heat or flame; can react with oxidizing materials, strong alkalis, acids, nitrates and potassium-tert-butoxide.

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

## ***11. Toxicological Information***

**Toxicological Data:**

Oral rat LD50: 10.8 g/kg;

inhalation rat LC50: 390 ppm/4H

Skin rabbit LD50: >17,600 mg/kg;

Irritant, skin rabbit (Std. Draize): 500 mg/24H, moderate. Irritant, eye rabbit: 100 mg moderate. Investigated as a reproductive effector.

**Reproductive Toxicity:**

Has shown teratogenic effects in laboratory animals.

## **12. Ecological Information**

### **Environmental Fate:**

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material may leach into groundwater. When released into the soil, this material is expected to have a half-life of less than 1 day. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has an estimated bioconcentration factor (BCF) of less than 100. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals.

### **Environmental Toxicity:**

96 Hr LC50 fathead minnow: 18 mg/L (flow-through);  
96 Hr LC50 bluegill: 100 mg/L (Static);  
96 Hr EC50 freshwater algae (*Scenedesmus subspicatus*): 320 mg/L;  
48 Hr EC50 water flea: 44 mg/L.

## **13. Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options.

## **14. Transport Information**

### **Domestic (Land, D.O.T.)**

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**Proper Shipping Name:** BUTYL ACETATES

**Hazard Class:** 3

**UN/NA:** UN1123

**Packing Group:** III

**Information reported for product/size:** 400LB

### **International (Water, I.M.O.)**

**Proper Shipping Name:** BUTYL ACETATES

**Hazard Class:** 3

**UN/NA:** UN1123

**Packing Group:** III

## **15. Other Information**

**NFPA Ratings:** Health: **2** Flammability: **3** Reactivity: **0**

**Label Hazard Warning:**

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE IRRITATION TO EYES. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

**Label Precautions:**

Keep away from heat, sparks and flame.

Keep container closed.

Use only with adequate ventilation.

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing vapor.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.