

MATERIAL SAFETY DATA SHEET

Date Printed: 03/14/2005

Date Updated: 04/11/2004

Version 1.4

Section 1 - Product and Company Information

Product Name BUTYL ACETATE, URETHANE GRADE,
REAGENTPLUS, 99.5%
Product Number 537454
Brand ALDRICH

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
BUTYL ACETATE	123-86-4	No

Formula C6H12O2
Synonyms Acetate de butyle (French) * Acetic acid n-butyl ester * Butile (acetati di) (Italian) * Butylacetat (German) * Butyl acetate (OSHA) * n-Butyl acetate (ACGIH:OSHA) * 1-Butyl acetate * Butylacetaten (Dutch) * Butyle (acetate de) (French) * Butylester kyseliny octove (Czech) * Butyl ethanoate * Octan n-butylu (Polish)

RTECS Number: AF7350000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable. Toxic.

Toxic by inhalation. Irritating to respiratory system and skin.

Risk of serious damage to eyes.

Target organ(s): Central nervous system.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 3

REACTIVITY: 0

NFPA RATING

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

FLASH POINT

72.2 °F 24 °C Method: closed cup

EXPLOSION LIMITS

Lower: 1.7 % Upper: 7.6 %

AUTOIGNITION TEMP

421 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back.
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Evacuate area and keep personnel upwind.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Property	Value	At Temperature or Pressure
Molecular Weight	116.16 AMU	
pH	N/A	
BP/BP Range	126 - 127 °C	
MP/MP Range	-78 °C	
Freezing Point	-78 °C	
Vapor Pressure	8 mmHg	20 °C
Vapor Density	4 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.881 g/cm ³	
Bulk Density	N/A	
Odor Threshold	7 - 20 ppm	
Volatile%	N/A	
VOC Content	N/A	
Water Content	< 0.1 %	
Solvent Content	N/A	
Evaporation Rate	1	
Viscosity	0.732 Pas	20 °C
Surface Tension	14.5 mN/m	25 °C
Partition Coefficient	Log Kow: 1.82	
Decomposition Temp.	N/A	
Flash Point	72.2 °F 24 °C	Method: closed cup
Explosion Limits	Lower: 1.7 % Upper: 7.6 %	
Flammability	N/A	
Autoignition Temp	421 °C	
Refractive Index	1.394	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Other Solvents: ACETONE, ETHER, PROPYLENGLYCOL	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong reducing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes severe eye irritation.

Inhalation: Toxic if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Drowsiness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral

Rat

*

LD50

4 HRS

Inhalation

Rat

9.6 MG/L TO >29.2 MG/L

LC50

Skin

Rabbit

17,600 mg/kg

LD50

Oral

Rat

10768 mg/kg

LD50

Remarks: Behavioral:Somnolence (general depressed activity).

Lungs, Thorax, or Respiration:Other changes. Liver:Other changes.

Inhalation

Rat

390 ppm

LC50

Remarks: Behavioral:Change in motor activity (specific assay).

Lungs, Thorax, or Respiration:Acute pulmonary edema. Blood:

Hemorrhage.

Oral

Mouse

6000 mg/kg

LD50

Inhalation

Mouse

6,000 mg/m³

LC50

Intraperitoneal

Mouse

1230 MG/KG

LD50

Oral

Rabbit

3200 mg/kg

LD50

Skin

Rabbit

> 17600 mg/kg

LD50

Oral

Guinea pig

4700 mg/kg
LD50

Oral
Mammal
4300 mg/kg
LD50

Inhalation
Mammal
40,000 mg/m³
LC50

IRRITATION DATA

Eyes
Rabbit
Remarks: Moderate irritation effect

Eyes
Human
300 ppm

Skin
Rabbit
500 mg
24H
Remarks: Moderate irritation effect

Eyes
Rabbit
100 mg
Remarks: Moderate irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 1500 PPM/7H
Route of Application: Inhalation
Exposure Time: (7-16D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Algae
Time: 24 h
Value: 1,200 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 72.8 - 205 mg/l

Test Type: LC50 Fish

Species: Lepomis macrochirus (Bluegill)
Time: 96 h
Value: 100 mg/l

Test Type: LC50 Fish
Species: Leuciscus idus
Time: 48 h
Value: 64 - 121 mg/l

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 17 - 19 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Butyl acetates
UN#: 1123
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Butyl acetates
IATA UN Number: 1123
Hazard Class: 3
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

R: 10 66 67
Risk Statements: Flammable. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
S: 25
Safety Statements: Avoid contact with eyes.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable. Toxic.
Risk Statements: Toxic by inhalation. Irritating to respiratory system and skin. Risk of serious damage to eyes.
Safety Statements: Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
US Statements: Target organ(s): Central nervous system.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.