

MATERIAL SAFETY DATA SHEET

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Version 1.1

Section 1 - Product and Company Information

Product Name BUTYL ACRYLATE, 99+%
Product Number 234923
Brand ALDRICH

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
BUTYL ACRYLATE	141-32-2	Yes

Formula C7H12O2
Synonyms Acrylic acid, butyl ester * Acrylic acid n-butyl ester * n-Butyl acrylate (ACGIH) * Butylester kyseliny akrylove (Czech) * Butyl 2-propenoate
RTECS Number: UD3150000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Combustible (USA) Flammable (EU). Harmful.
Harmful in contact with skin. Irritating to eyes and respiratory system. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes.
Lachrymator. Possible teratogen.

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

Section 4 - First Aid Measures

INHALATION EXPOSURE

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

Section 5 - Fire Fighting Measures

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back.

FLASH POINT

96.8 °F 36 °C Method: closed cup

EXPLOSION LIMITS

Lower: 1.3 % Upper: 9.9 %

AUTOIGNITION TEMP
293 °C

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: 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): Combustible liquid. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back.

EXPOSURE HAZARD(S)
Material: Lachrymator. Harmful liquid.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed. Keep away from heat and open flame. Store in a cool dry place.

SPECIAL REQUIREMENTS
Heat and light sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	2 PPM
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	10 PPM

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	20 MG/M3
Poland		NDSCh	70 MG/M3
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance	Color: Colorless	
	Form: Clear liquid	
Property	Value	At Temperature or Pressure
Molecular Weight	128.17 AMU	
pH	N/A	
BP/BP Range	145 - 146 °C	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	3.3 mmHg	20 °C
Vapor Density	> 1 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.898 g/cm3	
Bulk Density	N/A	
Odor Threshold	0.0001 ppm	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	0.75 Pas	20 °C
Surface Tension	20 mN/m	27 °C
Partition Coefficient	Log Kow: 2.38	
Decomposition Temp.	N/A	
Flash Point	96.8 °F 36 °C	Method: closed cup
Explosion Limits	Lower: 1.3 % Upper: 9.9 %	
Flammability	N/A	
Autoignition Temp	293 °C	
Refractive Index	1.418	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Slightly. Other Solvents: ACETONE, DIETHYL ETHER ETHANOL, ETHER	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Conditions of Instability: Heat sensitive.
Materials to Avoid: Strong oxidizing agents, Strong acids, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

ROUTE OF EXPOSURE

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

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause:

TOXICITY DATA

Oral
Rat
900 mg/kg
LD50

Inhalation
Rat
2,730 ppm
LC50
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Lungs, Thorax, or Respiration:Dyspnea.

Intraperitoneal
Rat
550 MG/KG
LD50

Oral
Mouse
5880 mg/kg
LD50
Remarks: Lungs, Thorax, or Respiration:Other changes.

Inhalation
Mouse
7,800 mg/m3
LC50

Intraperitoneal
Mouse
200 ML/KG
LD50
Remarks: Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Respiratory stimulation.

Skin
Rabbit
2 ML/KG
LD50

Inhalation
Mammal

7,800 mg/m3
LC50

IRRITATION DATA

Skin
Rabbit
10 mg
24H
Remarks: Open irritation test

Skin
Rabbit
500 mg
Remarks: Open irritation test

Eyes
Rabbit
50 mg
Remarks: Mild irritation effect

Eyes
Rabbit
500 mg
24H
Remarks: Mild irritation effect

IARC CARCINOGEN LIST

Rating: Group 3

ACGIH CARCINOGEN LIST

Rating: A4

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Rat
Dose: 135 PPM/6H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 135 PPM/6H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Maternal Effects: Other effects. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 8.2 mg/l

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 96 h
Value: 5.2 mg/l

ADDITIONAL RESULTS/DATA FROM RELEVANT SCIENTIFIC EXPERIMENTS

Avoid contamination of the environment

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

IATA

Proper Shipping Name: Butyl acrylates, stabilized
IATA UN Number: 2348
Hazard Class: 3
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xi
Indication of Danger: Irritant.
R: 10 36/37/38 43
Risk Statements: Flammable. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.
S: 9
Safety Statements: Keep container in a well-ventilated place.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Combustible (USA) Flammable (EU). Harmful.
Risk Statements: Harmful in contact with skin. Irritating to eyes and respiratory system. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes.
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements: Lachrymator. Possible teratogen.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
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

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 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.