

MATERIAL SAFETY DATA SHEET

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Version 1.6

Section 1 - Product and Company Information

Product Name BUTYL ACRYLATE, 99+%

Product Number 234923

Brand ALDRICH

Company Sigma-Aldrich

Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832

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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

Toxic (USA) Harmful (EU). Flammable.
Harmful by inhalation and if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.
Lachrymator.

HMIS RATING

HEALTH: 3
FLAMMABILITY: 3
REACTIVITY: 0

NFPA RATING

HEALTH: 3
FLAMMABILITY: 3
REACTIVITY: 0

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.

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 contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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.

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: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Flammable liquid. 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.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep container closed. Keep away from heat, sparks, and open flame.

SPECIAL REQUIREMENTS

Heat and light sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Hand: Compatible chemical-resistant gloves. Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

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	11
Poland		NDSch	30
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Liquid Color: Colorless Form: Clear liquid		
Property	Value	At Temperature or Pressure	
Molecular Weight	128.17 AMU		
pH	N/A		
BP/BP Range	145.0 - 146.0 °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

Stable: Stable.

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.

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: Lachrymator. Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SENSITIZATION

Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE

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

TOXICITY DATA

Oral

Rat
900 mg/kg
LD50

Inhalation

Rat
2,730 ppm
LC50

Remarks: Lungs, Thorax, or Respiration:Dyspnea. 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.

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

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: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Maternal Effects: Other effects.

Section 12 - Ecological Information

N/A

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

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Butyl acrylates, inhibited
UN#: 2348
Class: 3
Packing Group: Packing Group III
Hazard Label: Flammable liquid
PIH: Not PIH

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: Toxic (USA) Harmful (EU). Flammable.
Risk Statements: Harmful by inhalation and if swallowed.
Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.
Safety Statements: Keep container in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.
US Statements: Lachrymator.

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

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

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