Chemical Safety Data Sheet MSDS / SDS

Butyl acrylate SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Butyl acrylate

CAS: 141-32-2

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

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SECTION 2: Hazards identification

Classification of the substance or mixture

Flammable liquids, Category 3
Skin irritation, Category 2

Eye irritation, Category 2
Skin sensitization, Category 1
Specific target organ toxicity - single exposure, Category 3

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H226 Flammable liquid and vapour
H315 Causes skin irritation
H319 Causes serious eye irritation
H317 May cause an allergic skin reaction
H335 May cause respiratory irritation

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P264 Wash ... thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P271 Use only outdoors or in a well-ventilated area.

Response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P370+P378 In case of fire: Use ... to extinguish.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).
P332+P317 If skin irritation occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P317 If skin irritation or rash occurs: Get medical help.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319 Get medical help if you feel unwell.

Storage

P403+P235 Store in a well-ventilated place. Keep cool.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Butyl acrylate
Common names and synonyms:	Butyl acrylate
CAS number:	141-32-2
EC number:	205-480-7
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Vapor is irritating when breathed at high concentrations. Contact with liquid causes irritation of skin and burning of eyes. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Esters and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

Use water spray to keep fire exposed containers cool. Solid streams of water may be ineffective or may cause frothing. Use water spray, dry chemical, foam, or carbon dioxide. Fight fire from protected location or maximum possible distance.

Specific hazards arising from the chemical

Excerpt from ERG Guide 129P [Flammable Liquids (Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2016)

Special protective actions for fire-fighters

Use powder, AFFF, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit and filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Remove all ignition sources. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: chemical protection suit and filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Remove all ignition sources. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames, NO sparks and NO smoking. NO contact with strong oxidizing agents. Above 36°C use a closed system, ventilation and explosion-proof electrical equipment. NO contact with strong oxidizing agents. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools.

Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Fireproof. Cool. Keep in the dark. Separated from strong oxidants. Store only if stabilized.Do not store unless stabilized. Before entering a confined space where butyl acrylate may be present, check to make sure that an explosive concentration does not exist. Store in tightly closed containers in a cool, well ventilated, fireproof area. Metal containers involving the transfer of this chemical should be grounded and bonded. Where possible, automatically pump liquid from drums or other storage containers to process containers. Drums must be equipped with self-closing valves, pressure vacuum bungs, and flame arresters. Use only nonsparking tools and equipment, especially when opening and closing containers of this chemical. Sources of ignition, such as smoking and open flames, are prohibited where this chemical is used, handled, or stored in a manner that could create a potential fire or explosion hazard.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 2 ppm as TWA; A4 (not classifiable as a human carcinogen); (SEN).MAK: 11 mg/m3, 2 ppm; peak limitation category: I(2); skin absorption (H); sensitization of skin (SH); pregnancy risk group: C.EU-OEL: 11 mg/m3, 2 ppm as TWA; 53 mg/m3, 10 ppm as STEL

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Butyl acrylate is a clear colorless liquid with a sharp characteristic odor. Very slightly soluble in water and somewhat less dense than water. Hence forms surface slick on water. Flash point 105°F. Density 7.5 lb / gal. Used for making paints, coatings, caulks, sealants, adhesives.
Colour:	Colorless liquid
Odour:	Sharp, fragrant
Melting point/freezing point:	4°C(lit.)
Boiling point or initial boiling point and boiling range:	145°C(lit.)
Flammability:	Class II Combustible Liquid: Fl.P. at or above 100°F and below 140°F.
Lower and upper explosion limit/flammability limit:	Lower flammable limit: 1.7% by volume; Upper flammable limit: 9.9% by volume
Flash point:	36°C
Auto-ignition temperature:	559°F
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	less than 1 mg/mL at 68° F (NTP, 1992)

Partition coefficient n-octanol/water:	log Kow = 2.36
Vapour pressure:	3.3 mm Hg (20 °C)
Density and/or relative density:	0.894g/mLat 25°C(lit.)
Relative vapour density:	>1 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

The substance may spontaneously polymerize due to warming, under the influence of light and on contact with peroxides. Reacts violently with strong oxidants. This generates fire and explosion hazard.

Chemical stability

no data available

Possibility of hazardous reactions

A flammable liquid when exposed to heat or flame. Vapours are uninhibited and may polymerize, causing blockage of vents. BUTYL ACRYLATE reacts exothermically with acids to liberate heat along with alcohols and acids. Reacts with strong oxidizing agents, perhaps sufficiently exothermically to ignite the reaction products. Mixing with basic solutions generates heat. Generates flammable hydrogen with alkali metals and hydrides. Attacks many plastics [Handling Chemicals Safely 1980. p. 233]. Polymerizes readily, generating much heat in a reaction that is favored by heat and light [Handling Chemicals Safely 1980. p. 235].

Conditions to avoid

no data available

Incompatible materials

Incompatible with oxidizing materials.

Hazardous decomposition products

When heated to decomposition it emits acrid and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 3,730 mg/kg

Inhalation: LC50 Rat inhalation 2730 ppm/4 hr

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Evaluation: No epidemiological data relevant to the carcinogenicity of n-butyl acrylate were available. There is inadequate evidence in experimental animals for the carcinogenicity of n-butyl acrylate. Overall Evaluation: n-Butyl acrylate is not classifiable as to its carcinogenicity to humans (Group 3).

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis.

STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization.

Aspiration hazard

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: Oncorhynchus mykiss (Rainbow trout); Conditions: flow through, hardness 43-44 mg/L (as CaCO3), alkalinity 56-57 mg/L (as CaCO3), pH 7.5-7.9, conductivity 102-115 uMhos/cm, total organic carbon <1 mg/L, suspended solids 0.4 mg/L; Concentration: 5.2 mg/L for 96 hr

Toxicity to daphnia and other aquatic invertebrates: LC50; Species: Daphnia magna (Water flea, age < or =24 hr); Conditions: freshwater, static, 20-22 deg C, pH 7.6-7.7; Concentration: 230 mg/L for 24 hr /formulation

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: n-Butyl acxrylate reached 61.3% of its theoretical BOD in 14 days using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1). n-Butyl acrylate had a theoretical BOD of 56% and 40% in other biodegradation tests using OECD methods(2).

Bioaccumulative potential

An estimated BCF of 17 was calculated in fish for n-butyl acrylate(SRC), using a log Kow of 2.36(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

Koc values for n-butyl acrylate have been reported as 40 in Washington clay/loam (29% sand, 42% silt, 29% clay, 3.39% organic

carbon, pH 6.0), 50 in Canfield loam (45% sand, 42% silt, 13% clay, 4.58% organic carbon, pH 6.1), 97 in Ellsworth loam (35% sand, 40% silt, 25% clay, 1.42% organic carbon, pH 7.2), 148 in Tyner loamy sand (79% sand, 14% silt, 7% clay, 0.46% organic carbon, pH 5.2), and 107 in sandy loam sediment (53% sand, 28% silt, 19% clay, 1.23% organic carbon, pH 7.5)(1). According to a classification scheme(2), these Koc values suggest that n-butyl acrylate is expected to have high to very high mobility in soil.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN2348 (For reference only, please check.)
IMDG: UN2348 (For reference only, please check.)
IATA: UN2348 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: BUTYL ACRYLATES, STABILIZED (For reference only, please check.)
IMDG: BUTYL ACRYLATES, STABILIZED (For reference only, please check.)
IATA: BUTYL ACRYLATES, STABILIZED (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)
IMDG: 3 (For reference only, please check.)
IATA: 3 (For reference only, please check.)

Packing group, if applicable

ADR/RID: III (For reference only, please check.)
IMDG: III (For reference only, please check.)
IATA: III (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.Hydroquinone and hydroquinone ethyl ether are the commonly used stabilizers.Do NOT take working clothes home.