Safety Data Sheet
BUTYL ACRYLATE

1. Identification

Product identifier used on the label

BUTYL ACRYLATE

Recommended use of the chemical and restriction on use

Recommended use*: Monomer.
Recommended use*: for industrial use only
Unsuitable for use: cosmetics; Pharmaceutical
Monomer.; Intermediate
cosmetics; Pharmaceutical

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula:	C7 H12 O2	
Chemical family:	acrylates	
Synonyms:	Acrylic acid, butyl ester	Use: Monomer
	Butyl 2-propenoate; 2-Propenoic acid, butyl ester	

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Flam. Liq.	3	Flammable liquids
Acute Tox.	4 (Inhalation - vapour)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Sens.	1B	Skin sensitization
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Signal Word:
Warning

Hazard Statement:

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
H401	Toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe mist or vapour.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P243	Take action to prevent static discharges.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts thoroughly after handling.
P242	Use only non-sparking tools.
P240	Ground and bond container and receiving equipment.

Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Remove or Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333 + P311	If skin irritation or rash occurs: Call a POISON CENTER or physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P332 + P313	If skin irritation occurs: Get medical attention.
P337 + P311	If eye irritation persists: Call a POISON CENTER or physician.
P370 + P378	In case of fire: Use… to extinguish.

Precautionary Statements (Storage):

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

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazards not otherwise classified

No applicable information available.

Labeling of special preparations (GHS):
Risk of hazardous polymerization under certain conditions (e.g. elevated temperatures, low inhibitor and oxygen concentration).

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

n-butyl acrylate
CAS Number: 141-32-2
Content (W/W): >= 99.5%
Synonym: 2-Propenoic acid butyl ester; Butyl acrylate

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Immediately remove contaminated clothing.

Wash thoroughly with soap and water

If in eyes:
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Seek medical attention.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.
Treatment:	Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, dry powder, water spray, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Risk of violent self-polymerization if overheated in a container.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:
In case of a fire in the vicinity a restabilization system should be used if the temperature in the storage container reaches 45°C. Evacuate area of all unnecessary personnel. In case of a fire in the vicinity evacuate all personnel in a greater area if the temperature in the storage container reaches 60°C.

Impact Sensitivity:

Remarks:	Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:
Release of substance/product can cause fire or explosion.

Personal precautions, protective equipment and emergency procedures
Take appropriate protective measures. Ensure adequate ventilation. Use personal protective clothing. Breathing protection required.

Environmental precautions
Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up
For large amounts: Pump off product. Dispose of absorbed material in accordance with regulations.
For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.
Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

7. Handling and Storage

Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice. The substance/ product may be handled only by appropriately trained personnel. Facility parts must be checked for polymer residues and cleaned on regular basis in order to avoid hazardous reactions.

Ensure thorough ventilation of stores and work areas. Encapsulation or exhaust ventilation required. When filling, transferring, or emptying of containers, adequate local exhaust ventilation is necessary. Vent waste air to atmosphere only through suitable separators. Check the condition of seals and connector screw threads. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

The temperatures which must be avoided are to be considered. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light.

Ensure adequate inhibitor and dissolved oxygen level.

Protection against fire and explosion:
Substance/product can form explosive mixture with air. Ground all transfer equipment properly to prevent electrostatic discharge. Containers should be grounded against electrostatic charge. It is recommended that all conductive parts of the machinery are grounded. Avoid all sources of ignition: heat, sparks, open flame. Vapours may form explosive mixture with air. Ignitable mixtures can be formed in the emptied container.

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity. Sealed containers should be protected against heat as this results in pressure build-up. Avoid influence of heat.

Conditions for safe storage, including any incompatibilities
No applicable information available.

Further information on storage conditions: Prior to storage ensure that the transfer equipment used and the intended storage containers do not contain other substances/products. Before transfer to stock the identity of the product must be proved to be without doubt. The entrance to storage rooms is to be granted only to appropriately trained personnel.
The stabilizer is only effective in the presence of oxygen. Maintain contact with atmosphere containing 5 - 21% oxygen. Never use tanks with inert-gas installation for storage.
Risk of polymerization. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light. Avoid UV-light and other radiation with high energy. Protect against contamination.

All storage containers should at least be equipped with two high temperature alert devices.
Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Storage stability:
Storage temperature: < 35 °C
Storage duration: 12 Months
The stated storage temperature should be noted.
Avoid prolonged storage.
This product should be processed as soon as possible.
Ensure adequate inhibitor and dissolved oxygen level.
The product is stabilized, the shelf life should be noted.
Do not store with less than 10 % headspace above liquid.
Storage stability is based upon ambient temperatures and conditions described.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

n-butyl acrylate	ACGIH, US:	TWA value 2 ppm ;
	NIOSH, US:	REL value 10 ppm 55 mg/m3 ;
	NIOSH, US:	REL value 10 ppm 55 mg/m3 ;
	OSHA Z1A:	TWA value 10 ppm 55 mg/m3 ;

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed. At concentrations < 250 ppm, use a chemical cartridge respirator. At concentrations > 250 ppm, use an air-supplied or self-contained breathing apparatus.

Hand protection:
Chemical resistant protective gloves

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
light protective clothing

General safety and hygiene measures:
Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

9. Physical and Chemical Properties

Form:	liquid
Odour:	acrylic-like ester-like
Odour threshold:	not determined
Colour:	colourless
pH value:	not applicable
Melting point:	-64.6 °C The substance / product does not decompose. Literature data.
Freezing point:	No data available.

Boiling point:	147 °C (1,013 hPa)	
Boiling range:	No data available.	
Sublimation point:	No applicable information available.	
Flash point:	38 °C	(DIN 51755, closed cup)
Flammability:	Flammable liquid and vapour.	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Autoignition:	275 °C	(DIN 51794)
SADT:	> 50 °C Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)	
Vapour pressure:	5 hPa (22.2 °C)	
Density:	0.899 g/cm3 (20 °C) 0.8689 g/cm3 (50 °C) 0.8639 g/cm3 (55 °C)	 (calculated)
Relative density:	0.9 (20 °C)	
Vapour density:	4.4	
Partitioning coefficient n-octanol/water (log Pow):	2.38 (25 °C)	(measured)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	0.88 mPa.s (20 °C) 0.66 mPa.s (40 °C)	
Viscosity, kinematic:	(20 °C) not determined	
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	1.7 g/l (20 °C)	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	miscible solvent(s): organic solvents,	
Molar mass:	128.17 g/mol	
Evaporation rate:	No data available.	

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized. Formation of explosive gas/air mixtures.
Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Risk of spontaneous polymerization when heated or in the presence of UV radiation. With unstabilised product, spontaneous polymerisation may occur e.g. through ambient heat. Polymerization coupled with heat formation. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.
Risk of spontaneous polymerization by oxygen depletion of the liquid phase.
Radical formation can cause exothermic polymerization. Reacts with peroxides and other radical components. Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Reacts with nitric acid. Polymerizes explosively in contact with strong oxidizing agents. Risk of spontaneous polymerization in the presence of oxidizing agents.
Hazardous reactions in presence of mentioned substances to avoid.
The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid
Avoid heat. Avoid oxygen content above the product of less than 5 %. Do not blanket with nitrogen. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures.

Incompatible materials
radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, perborates, azides, ether, ketones, aldehydes, amines, nitrates, nitrites, oxidizing agents, reducing agents, strong bases, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts
Inert gas

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Of moderate toxicity after short-term inhalation. Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Oral
Type of value: LD50
Species: rat
Value: 3,150 mg/kg (BASF-Test)

Inhalation
Type of value: LC50
Species: rat
Value: 10.3 mg/l (OECD Guideline 403)
Exposure time: 4 h
The vapour was tested.

Dermal
Type of value: LD50
Species: rabbit
Value: 2,000 - 3,024 mg/kg (other)

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Irritation / corrosion
Assessment of irritating effects: Eye contact causes irritation. Skin contact causes irritation.

Skin
Species: rabbit
Result: Irritant.
Method: BASF-Test

Eye
Species: rabbit
Result: Irritant.
Method: other

Sensitization
Assessment of sensitization: Sensitization after skin contact possible.

Mouse Local Lymph Node Assay (LLNA)
Species: mouse
Result: sensitizing
Method: OECD Guideline 429

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Genetic toxicity
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in a test with mammals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity
Assessment of carcinogenicity: In long-term animal studies in which the substance was given by inhalation, a carcinogenic effect was not observed. The substance showed no carcinogenic acitivity in animals after chronic administration to the skin. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely toxic for aquatic organisms. Harmful to aquatic organisms based on long-term (chronic) toxicity study data. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish
LC50 (96 h) 2.1 mg/l, Cyprinodon variegatus (OECD Guideline 203, Flow through.)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates
EC50 (48 h) 8.2 mg/l, Daphnia magna (OECD Guideline 202, part 1, Flow through.)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants
EC50 (96 h) 2.65 mg/l, Selenastrum capricornutum (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to fish
No data available.

Chronic toxicity to aquatic invertebrates
No observed effect concentration (21 d) 0.136 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
The statement of the toxic effect relates to the analytically determined concentration.

Assessment of terrestrial toxicity
No effects at the highest test concentration.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Soil living organisms

Toxicity to soil dwelling organisms:
EC50 (28 d) > 1,000 mg/kg, soil dwelling microorganisms (OECD 217)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The details of the toxic effect relate to the nominal concentration.

Toxicity to terrestrial plants

No data available.

Other terrestrial non-mammals
No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
other aerobic
activated sludge, industrial/EC0 (3 d): > 150 mg/l
Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria).

Elimination information

80 - 90 % TIC of the ThIC (28 d) (ISO 14593) (aerobic, activated sludge, domestic)

Assessment of stability in water
In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis)
$t_{1/2}$ 1,100 d (25 °C, pH value 7), (OECD Guideline 111, pH 7)
In contact with water the substance will hydrolyse slowly.

Bioaccumulative potential

Assessment bioaccumulation potential
Accumulation in organisms is not to be expected.

Bioaccumulation potential
Bioconcentration factor: 17.3 (calculated)
Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:

Do not release untreated into natural waters. Acutely toxic for aquatic organisms.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations.

Container disposal:
Uncleaned empties should be disposed of in the same manner as the contents.
WARNING: Empty containers may still contain hazardous residue. Flammable vapors may exist in containers in which residues of this product remain. Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport
TDG

Hazard class:	3
Packing group:	III
ID number:	UN 2348
Hazard label:	3
Proper shipping name:	BUTYL ACRYLATES, STABILIZED

Sea transport
IMDG

Hazard class:	3
Packing group:	III
ID number:	UN 2348
Hazard label:	3
Marine pollutant:	NO
Proper shipping name:	BUTYL ACRYLATES, STABILIZED

Air transport
IATA/ICAO

Hazard class:	3
Packing group:	III
ID number:	UN 2348
Hazard label:	3
Proper shipping name:	BUTYL ACRYLATES, STABILIZED

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released / listed

NFPA Hazard codes:
Health: 2 Fire: 2 Reactivity: 2 Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic
Acute Tox.	5 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - vapour)	Acute toxicity
Acute Tox.	5 (dermal)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Flam. Liq.	3	Flammable liquids
Skin Sens.	1B	Skin sensitization

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2021/03/23

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET