We create chemistry

Safety Data Sheet
tert-Butyl Acrylate (TBA)

1. Identification

Product identifier used on the label

tert-Butyl Acrylate (TBA)

Recommended use of the chemical and restriction on use

Recommended use*: Monomer.
Recommended use*: Monomer.
Unsuitable for use: Not intended for sale to or use by the general public.

* 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 CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Chemical family: acrylates

2. Hazards Identification

According to Regulation 2024 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Flam. Liq.	2	Flammable liquids
Acute Tox.	3 (Inhalation - vapour)	Acute toxicity
Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	4 (dermal)	Acute toxicity
Skin Irrit.	2	Skin irritation

Skin Sens.	1	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	2	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H331	Toxic if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H302 + H312	Harmful if swallowed or in contact with skin.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection or face protection.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist or vapour.
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.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.
P242	Use non-sparking tools.
P240	Ground and bond container and receiving equipment.

Precautionary Statements (Response):

P311	Call a POISON CENTER or physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P330	Rinse mouth.
P391	Collect spillage.
P370 + P378	In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.

Precautionary Statements (Storage):

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

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. See section 12 - Results of PBT and vPvB assessment.

Labeling of special preparations (GHS):
Risk of hazardous polymerization under certain conditions (e.g. elevated temperatures, low inhibitor and oxygen concentration). Do not blanket with nitrogen.

3. Composition / Information on Ingredients

According to Regulation 2024 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

tert-butyl acrylate
CAS Number: 1663-39-4
Content (W/W): >= 80.0 - <= 100.0%
Synonym: 2-Propenoic acid 1,1-dimethylethyl ester

2-methylpropene
CAS Number: 115-11-7
Content (W/W): >= 0.1 - <= 1.5%
Synonym: 2-Methyl-1-propen

acrylic acid
CAS Number: 79-10-7
Content (W/W): >= 0.1 - <= 1.0%
Synonym: 2-Propenoic acid; Acrylic acid

The actual concentration is withheld as a trade secret.

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.

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

If on skin:
Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

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: Overexposure may cause:, Eye irritation, skin irritation, erythema, allergic contact dermatitis, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps, Inhalation may provoke the following symptoms:, irritation of respiratory tract, coughing
Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

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.

5. Fire-Fighting Measures

Extinguishing media

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

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Use extinguishing measures to suit surroundings.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Risk of violent self-polymerization if overheated in a container. Cool endangered containers with water-spray.

Flammable. See SDS section 7 - Handling and storage.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear. Special protective equipment for firefighters

Further information:
Extend fire extinguishing measures to the surroundings. Fight fire from maximum distance. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

In case of a fire in the vicinity a restabilization system should be used if the temperature in the bulk storage-tank 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 bulk storage-tank reaches 60°C.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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

6. Accidental release measures

Further accidental release measures:
High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

Personal precautions, protective equipment and emergency procedures
Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

Environmental precautions
Substance/product is RCRA hazardous due to its properties.

Methods and material for containment and cleaning up
For large amounts: Pump off product.
Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations. Ensure adequate ventilation. Suppress gases/vapours/mists with water spray jet. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Cleaning operations should be carried out only while wearing breathing apparatus. Pick up with suitable appliance and dispose of.

7. Handling and Storage

Precautions for safe handling
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.

The temperatures which must be avoided are to be considered. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

Ensure adequate inhibitor and dissolved oxygen level.

Avoid inhalation of dusts/mists/vapours. Avoid aerosol formation. Avoid all direct contact with the substance/product.

Protection against fire and explosion:
Avoid all sources of ignition: heat, sparks, open flame. Substance/product can form explosive mixture with air. Ground all transfer equipment properly to prevent electrostatic discharge. It is recommended that all conductive parts of the machinery are grounded. Explosion-proof equipment is not necessary when loading and processing of the product takes place at a minimum of 5 °C below the flash point.

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.

Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

Conditions for safe storage, including any incompatibilities

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. Avoid UV-light and other radiation with high energy. Protect against contamination.
In case of bulk storage, the storage-tanks 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

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

acrylic acid	ACGIH, US:	TWA value 2 ppm ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption

Advice on system design:
Ensure adequate ventilation.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed.

Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Chemical resistant protective gloves

Eye protection:
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Avoid contact with skin. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Physical state:	liquid	
Form:	liquid	
Odour:	ester-like	
Odour threshold:	not determined	
Colour:	colourless	
pH value:	not applicable	
Freezing point:	approx. -69 °C Literature data.	
Melting point:	No data available.	
Boiling point:	119.2 °C (1,013 hPa)	
Boiling range:	No data available.	
Flash point:	14 °C	(DIN 51755, closed cup)
Flammability:	Highly flammable.	(derived from flash - and boiling 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. 0.7 %(V) (7.5 °C)	
Upper explosion limit:	For liquids not relevant for classification and labelling. 7 %(V) (46 °C)	
Autoignition:	400 °C Literature data.	
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	

Vapour pressure:	20 hPa (23.4 °C) 84.7 hPa (50 °C)	(measured)
Density:	0.88 g/cm3 (20 °C)	(pyknometer)
Relative density:	0.88 (20 °C)	
Relative vapour density:	4.41 (20 °C) Heavier than air.	(calculated)
Partitioning coefficient n-octanol/water (log Pow):	2.32 (25 °C)	(OECD Guideline 107)
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:	approx. 0.5 - 1.0 mPa.s (20 °C) By analogy with a product of similar composition	
Viscosity, kinematic:	(20 °C) not determined	
Solubility in water:	approx. 2 g/l (25 °C)	
Solubility (qualitative):	miscible solvent(s): organic solvents,	
Molecular weight:	128.17 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form.

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.
Polymerization coupled with heat formation.
Risk of spontaneous polymerization by oxygen depletion of the liquid phase. Risk of spontaneous polymerization when heated or in the presence of UV radiation. Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.
Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Reacts with nitric acid. 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 %. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures. Avoid all sources of ignition: heat, sparks, open flame. Avoid freezing. Avoid moisture.
Do not blanket with nitrogen.

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, alkaline reactive substances, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts
polyvinylchloride
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 skin contact. Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term inhalation.

Oral
Type of value: LD50
Species: rat (male/female)
Value: approx. 1,047 mg/kg (BASF-Test)

Inhalation
Type of value: LC50
Species: rat (male/female)
Value: 7 mg/l (BASF-Test)
Exposure time: 4 h
The vapour was tested.

Dermal
Type of value: LD50
Species: rabbit
Value: 2,000 mg/kg (BASF-Test)

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

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. Not irritating to the eyes.

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

Eye
Species: rabbit
Result: non-irritant
Method: BASF-Test

Sensitization
Assessment of sensitization: Sensitization after skin contact possible.

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

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: 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.

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 activity in animals after chronic administration to the skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity
Assessment of reproduction toxicity: Animal studies gave no indication of a fertility impairing effect at doses which were not toxic to the parental animals. The chemical structure does not suggest a specific alert for such an effect. The results were determined in a Screening test (OECD 421/422).

Teratogenicity
Assessment of teratogenicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. The chemical structure does not suggest a specific alert for such an effect. The results were determined in a Screening test (OECD 421/422).

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely toxic for aquatic organisms. 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) 2.37 mg/l, Leuciscus idus (DIN 38412 Part 15, static)

Aquatic invertebrates
EC50 (48 h) 8.74 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The statement of the toxic effect relates to the analytically determined concentration. The product is highly volatile. Tested in a closed test system.

Aquatic plants
EC50 (72 h) 14.6 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)
The product is highly volatile. Tested in a closed test system. The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to fish
Study scientifically not justified.

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

No observed effect concentration (21 d) 0.19 mg/l, Daphnia magna (Flow through.)
The statement of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of terrestrial toxicity
No toxic effects have been observed in studies with soil living organisms.

Study scientifically not justified.

Soil living organisms

Toxicity to soil dwelling organisms:
EC50 (28 d) > 1,000 mg/kg, soil dwelling microorganisms (OECD Guideline 217)

Toxicity to terrestrial plants

No data available.

Other terrestrial non-mammals
No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aquatic
activated sludge, domestic/EC20 (0.5 h): approx. 950 mg/l
Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Moderately/partially biodegradable. Not readily biodegradable (by OECD criteria).

Elimination information

50 - 60 % CO2 formation relative to the theoretical value (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)
$t_{1/2}$ > 365 d (25 °C, pH value 7), (calculated, pH 7)
In contact with water the substance will hydrolyse slowly.

Bioaccumulative potential

Assessment bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) 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.

13. Disposal considerations

Waste disposal of substance:
Incinerate or dispose of in a RCRA-licensed facility. Do not discharge into drains/surface waters/groundwater.

Container disposal:
Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA-licensed facility.

14. Transport Information

Land transport
USDOT

Hazard class:	3
Packing group:	II
ID number:	UN 1992
Hazard label:	3, 6.1, EHSM
Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (contains TERT-BUTYLACRYLATE, STABILIZED)

Sea transport
IMDG

Hazard class:	3
Packing group:	II
ID number:	UN 1992
Hazard label:	3, 6.1, EHSM
Marine pollutant:	YES
Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (contains TERT-BUTYLACRYLATE, STABILIZED)

Air transport
IATA/ICAO

Hazard class:	3
Packing group:	II
ID number:	UN 1992
Hazard label:	3, 6.1
Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (contains TERT-BUTYLACRYLATE, STABILIZED)

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US

All substances are TSCA listed and active.

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

CERCLA RQ	CAS Number	Chemical name
100 LBS	115-11-7	2-methylpropene

NFPA Hazard codes:
Health: 2 Fire: 3 Reactivity: 2 Special:

HMIS III rating
Health: 2¤ Flammability: 3 Physical hazard: 1

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

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

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2025/10/06

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