

# Safety data sheet

## BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 1/8  
Version: 5.0 (30041258/MDS\_GEN\_US/EN)

### 1. Substance/preparation and company identification

24 Company Hour Emergency Response Information

BASF CORPORATION

100 Campus Drive

Florham Park, NJ 07932

CHEMTREC: (800) 424-9300

BASF HOTLINE: (800) 832-HELP

Molecular formula : C7 H12 O2

Chemical family: organic acids, esters

Synonyms: ACRYLIC ACID, BUTYL ESTER

### 2. Composition/information on ingredients

**CAS Number Content (W/W) Chemical name**

141-32-2 99.5 % n-butyl acrylate

150-76-5 >= 10.0 - <= 120.0

PPM

MEHQ

### 3. Hazard identification

#### Emergency overview

DANGER: FLAMMABLE LIQUID. CAUSES EYE BURNS.

CAUSES SKIN BURNS.

TOXIC IF ABSORBED THROUGH SKIN.

CONTAINS MATERIAL THAT MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES.

SENSITIZER.

CAN CAUSE LIVER DAMAGE.

Use with local exhaust ventilation.

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Wear NIOSH-certified chemical goggles.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

Wear full face shield if splashing hazard exists.

#### Potential health effects

##### Primary routes of exposure

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

##### Acute toxicity:

Harmful by inhalation. Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Inhalation-risk test (IRT): Mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture may represent a hazard.

##### Irritation:

Irritating to eyes, respiratory system and skin.

## Safety data sheet

## BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 2/8  
Version: 5.0 (30041258/MDS\_GEN\_US/EN)

#### Sensitization:

Caused sensitization in animal studies.

#### Medical conditions aggravated by overexposure:

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.

See MSDS section 11 - Toxicological information.

#### Potential environmental effects

##### 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.

### 4. First-aid measures

#### General advice:

Remove contaminated clothing.

#### If inhaled:

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

#### If on skin:

Flush with copious amounts of water for at least 15 minutes. Sterile protective dressing. Immediate medical attention required.

#### If in eyes:

Immediately 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 plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

**Note to physician**

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary edema.

## 5. Fire-fighting measures

Flash point: 36.5 °C (DIN 51755)

97.70 °F (DIN 51755)

Autoignition: 267 °C (DIN 51794)

557.60 °F (DIN 51794)

Lower explosion limit: 1.1 %(V) ( 35 °C)

Upper explosion limit: 7.8 %(V) ( 73.4 °C)

**Suitable extinguishing media:**

carbon dioxide, dry extinguishing media, water spray, foam

# Safety data sheet

## BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 3/8

Version: 5.0 (30041258/MDS\_GEN\_US/EN)

**Hazards during fire-fighting:**

Risk of violent self-polymerization if overheated in a container.

**Protective equipment for fire-fighting :**

Firefighters should be equipped with self-contained breathing apparatus and turn- out gear.

**Further information :**

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

**NFPA Hazard codes:**

Health : 2 Fire: 2 Reactivity: 2 Special:

## 6. Accidental release measures

**Personal precautions:**

Take appropriate protective measures.

Ensure adequate ventilation. Use personal protective clothing. Breathing protection required.

**Environmental precautions:**

Substance/product is RCRA hazardous due to its properties.

**Cleanup :**

Spills should be contained, solidified, and placed in suitable containers for disposal.

## 7. Handling and storage

**Handling**

**General advice:**

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.

**Protection against fire and explosion:**

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.

**Storage**

**General advice:**

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.

Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Risk of polymerization. Protect from direct sunlight.

**Storage stability:**

# Safety data sheet

## BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 4/8

Version: 5.0 (30041258/MDS\_GEN\_US/EN)

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.

## 8. Exposure controls and personal protection

**Components with workplace control parameters**

n-butyl acrylate

ACGIH TWA value 2 ppm ;

MEHQ

ACGIH TWA value 5 mg/m<sup>3</sup> ;

**Advice on system design:**

Provide local exhaust ventilation to maintain recommended P.E.L.

**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 skin. Avoid inhalation of vapour. Wash soiled clothing immediately.

## 9. Physical and chemical properties

Form: liquid

Odour : ester-like, strong

Colour : colourless

Melting temperature: approx. -64 °C

: approx. -85.00 °F

boiling temperature: approx. 148 °C ( 1.013 bar) (DIN 51751)

: approx. 298.04 °F ( 1.013 bar) (DIN 51751)

Vapour pressure: 4.3 mbar ( 20 °C)

25.5 mbar ( 50 °C)

3.225 mmHg ( 68.00 °F)

19.127 mmHg ( 122.00 °F)

Vapour density : 4.4

Partitioning coefficient noctanol/

water (log Pow):

2.38

Viscosity, dynamic: 0.75 mPa.s ( 20 °C) (DIN/EN/ISO 3219)

Solubility in water : 1.4 g/l ( 20 °C)

Solubility (qualitative) : miscible

solvent(s): organic solvents ,

## Safety data sheet

### BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 5/8

Version: 5.0 (30041258/MDS\_GEN\_US/EN)

## 10. Stability and reactivity

**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.

**Substances to avoid:**

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

Inert gas

**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.

**Decomposition products:**

carbon monoxide, Carbon dioxide

**Corrosion to metals:**

No corrosive effect on metal.

## 11. Toxicological information

### Acute toxicity

#### Oral:

LD50/rat: 3,143 mg/kg (BASF- Test)

#### Inhalation:

LC50/rat: 10.3 mg/l / 4 h(BASF-Test)

#### Dermal:

LD50/rabbit: 2,000 mg/kg

## Safety data sheet

### BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 6/8

Version: 5.0 (30041258/MDS\_GEN\_US/EN)

#### Skin irritation:

rabbit: Irritant. (BASF- Test)

#### Eye irritation :

rabbit: Irritant.

#### Sensitization:

Guinea pig maximization test/guinea pig: sensitizing

#### Chronic toxicity

#### Genetic toxicity:

Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

#### Reproductive toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

#### Developmental toxicity/teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

## 12. Ecological information

### Environmental fate and transport

#### Biodegradation:

Test method: ISO 14593 (aerobic), activated sludge, domestic

Method of analysis: TIC of the ThlC

Degree of elimination : 80 - 90 % (28 d)

Evaluation: Readily biodegradable (according to OECD criteria).

Readily biodegradable (according to OECD criteria).

#### Bioaccumulation:

calculated

Bioconcentration factor 13

Significant accumulation in organisms is not to be expected.

#### Environmental toxicity

#### Acute and prolonged toxicity to fish:

OECD Guide-line 203 Flow through.

marine minnow, sheepshead/LC50 (96 h): 2.1 mg/l

#### Acute toxicity to aquatic invertebrates:

OECD Guideline 202, part 1 Flow through.

Daphnia magna/EC50 (48 h): 8.2 mg/l

## Safety data sheet

### BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 7/8

Version: 5.0 (30041258/MDS\_GEN\_US/EN)

#### Toxicity to aquatic plants :

OECD Guideline 201 green algae/EC50 (96 h): 5.2 mg/l

#### Toxicity to microorganisms:

activated sludge, industrial /EC0 (3 d): > 150 mg/l

#### Other ecotoxicological advice:

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

## 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.

RCRA : D001

## 14. Transport information

Reference Bill of Lading

## 15. Regulatory information

### Federal Regulations

#### Registration status:

TSCA, US released / listed

**OSHA hazard category:** ACGIH TLV established, Corrosive to skin and/or eyes, Chronic target organ effects reported, Skin and/or eye irritant, Combustible Liquid, Acute target organ effects reported

**SARA hazard categories (EPCRA 311/312) :** Acute, Fire, Chronic

#### State regulations

##### State RTK

**CAS Number Chemical name State RTK**

141-32-2 n-butyl acrylate MA, NJ, PA

150-76-5 MEHQ MA, NJ, PA

## Safety data sheet

### BUTYL ACRYLATE

Revision date : 2005/10/26 Page: 8/8

Version: 5.0 (30041258/MDS\_GEN\_US/EN)

## 16. Other information

Recommended use: for industrial use only

#### HMIS III rating

Health: 3 Flammability: 2 Physical hazard: 2

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. Any other intended applications should be discussed with the manufacturer.

END OF DATA SHEET

## *n*-Butyl Acrylate

Product Specification - Version 4a

### **Specifications Minimum Maximum Test Method**

Purity (wt%) 99.5 GC

Density @ 20C (g/ml) 0.896 0.901 ASTM D4052

Water (wt%) 0.05 ASTM D1364

Acidity as Acrylic Acid (wt%) 0.005 ASTM D1613

Color (Pt-Co) 10 ASTM D1209

Inhibitor, MEHQ (ppm) 10 20 ASTM D3125

*Notes: The Sales Specification values are continuously checked, documented and stored within the scope of quality assurance.*

---

Reason for revision:

Version 2a dated 7/20/06 GAT– New format.

Version 4a dated 12/25/06 GAT – Specification layout revised for posting on website.