N-Butyl Methacrylate  
CAS No 97-88-1  

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

1.1 Product identifiers  
Product name: N-Butyl Methacrylate  
CAS-No.: 97-88-1

1.2 Relevant identified uses of the substance or mixture and uses advised against  
Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet  
Company: Central Drug House (P) Ltd  
7/28 Varadaan House  
New Delhi-10002  
INDIA  
Telephone: +91 11 49404040  
Email: care@cdhfinechemical.com

1.4 Emergency telephone number  
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
Flammable liquids (Category 3), H226  
Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Skin sensitisation (Category 1), H317  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements  
Labelling according Regulation (EC) No 1272/2008  
Pictogram

Signal word: Warning  
Hazard statement(s):  
H226: Flammable liquid and vapour.  
H315: Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)
P261 Avoid breathing vapours.
P280 Wear protective gloves.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard none

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : C8H12O2
Molecular weight : 142.20 g/mol
CAS-No. : 97-88-1
EC-No. : 202-615-1
Index-No. : 607-033-00-5

Hazardous ingredients according to Regulation (EC) No 1272/2008
Component Classification Concentration

Butyl methacrylate
CAS-No. 97-88-1 Flam. Liq. 3; Skin Irrit. 2; Eye <= 100 %
EC-No. 202-615-1 Irrit. 2; Skin Sens. 1; STOT SE
Index-No. 607-033-00-5 3; H226, H315, H319, H317, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature 2 - 8 °C
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid
b) Odour No data available
c) Odour Threshold No data available
d) pH No data available
e) Melting point/freezing point Melting point/range: -74.99 °C
f) Initial boiling point and boiling range 162 - 165 °C - lit.
g) Flash point 54 °C - closed cup
h) Evaporation rate No data available
i) Flammability (solid, gas) No data available
j) Upper/lower explosive limits
   Upper explosion limit: 8 %(V)
   Lower explosion limit: 2 %(V)
k) Vapour pressure 2 mmHg at 20 °C
l) Vapour density 4.91 - (Air = 1.0)
m) Relative density 0.894 g/cm3 at 25 °C
n) Water solubility ca.0.2 g/l
o) Partition coefficient: n-octanol/water log Pow: 3.01
p) Auto-ignition temperature No data available
q) Decomposition temperature No data available
r) Viscosity No data available
9.2 Other safety information

- Explosive properties: No data available
- Oxidizing properties: No data available

- Surface tension: 30 mN/m at 20 °C
- Relative vapour density: 4.91 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute toxicity
  LD50 Oral - Rat - 16,000 mg/kg (Butyl methacrylate)
  LC50 Inhalation - Rat - 4 h - 4910 ppm (Butyl methacrylate)
  Remarks: 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. Lungs, Thorax, or Respiration: Dyspnea.
  LD50 Dermal - Rabbit - 10,125 mg/kg (Butyl methacrylate)

- Skin corrosion/irritation
  Skin - Rabbit (Butyl methacrylate)
  Result: Mild skin irritation

- Serious eye damage/eye irritation
  No data available (Butyl methacrylate)

- Respiratory or skin sensitisation
  Maximisation Test - Guinea pig (Butyl methacrylate)
  Result: May cause sensitisation by skin contact.
  (OECD Test Guideline 406)

- Germ cell mutagenicity
  No data available (Butyl methacrylate)

- Carcinogenicity
  IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

- Reproductive toxicity
  Specific target organ toxicity - single exposure
  Inhalation - May cause respiratory irritation. (Butyl methacrylate)

  Specific target organ toxicity - repeated exposure
  No data available
Aspiration hazard
No data available (Butyl methacrylate)

Additional Information
RTECS: OZ3675000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated (Butyl methacrylate)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
LC50 - Pimephales promelas (fathead minnow) - 11 mg/l - 96 h (Butyl methacrylate)

Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 32 mg/l - 48 h (Butyl methacrylate)

Toxicity to algae
EC50 - Pseudokirchneriella subcapitata (green algae) - 57 mg/l - 96 h (Butyl methacrylate)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d (Butyl methacrylate)
Result: 88 % - Readily biodegradable (OECD Test Guideline 301C)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Butyl methacrylate)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Harmful to aquatic life.

Avoid release to the environment.
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 2227
IMDG: 2227
IATA: 2227

14.2 UN proper shipping name
ADR/RID: n-BUTYL METHACRYLATE, STABILIZED
IMDG: n-BUTYL METHACRYLATE, STABILIZED
IATA: n-Butyl methacrylate, stabilized
14.3 Transport hazard class(es)
ADR/RID: 3
IMDG: 3
IATA: 3

14.4 Packaging group
ADR/RID: III
IMDG: III
IATA: III

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

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

Further information
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 guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhtfinechemical.com for additional terms and conditions of sale.