1 Identification of the substance and of the company/undertaking

1.1 Product identifier:
Identification on the label/Trade name: Butyl methacrylate
Additional identification: 2-Propenoic acid, 2-methyl-, butyl ester
Identification of the product: CAS# 97-88-1 ; EC# 202-615-1

1.2 Relevant identified uses of the substance and uses advised against:
1.2.1 Identified uses:
Use as a monomer of polymer.
1.2.2 Uses advised against:
Not available.

1.3 Details of the supplier of the safety data sheet:
Supplier(Manufacturer): FuShun AnXin Chemical CO.,LTD
Address: Science & Technology Town, FuShun Economy Development Region, LiaoNing, China
Contact person(E-mail): admin@anxinchem.com.cn
Telephone: +86-24-56706868
Fax: +86-24-56706808

1.4 Emergency telephone Number:
+86-24-56706860
Available outside office hours? YES √ NO

2 Hazards Identification

2.1 Classification of the mixture
The mixture is classified as following according to GHS:

<table>
<thead>
<tr>
<th>GHS</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity after single exposure</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

2.2 label elements

Hazard Pictograms:

Signal Word(S): Warning
Material Safety Data Sheet
Butyl methacrylate

Precautionary Statement
P243: Take precautionary measures against static discharge.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313: If eye irritation persists: Get medical advice/attention.
P362 + P364: Take off contaminated clothing and wash before reuse.
P370 + P378: In case of fire: Use foam, dry chemical, carbon dioxide for extinction.

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

Disposal:
P501: Dispose of contents/container in accordance with local regulation.

3 Composition/information on ingredients
Substance/Mixture: Substance

Ingredient(s):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl methacrylate</td>
<td>97-88-1</td>
<td>202-615-1</td>
<td>≥99.50 % (w/w)</td>
</tr>
</tbody>
</table>

4 First aid measures

4.1 Description of first aid measures:
Remove soiled, soaked clothing immediately. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours.

4.1.1 In case of inhalation:
Move subject to fresh air and keep him calm. See a physician.

4.1.2 In case of skin contact:
Wash off immediately with soap and water. If skin irritation occurs consult a physician.

4.1.3 In case of eyes contact:
Flush eyes thoroughly with a large amount of water and consult a physician.

4.1.4 In case of ingestion:
Do not induce vomiting. Contact a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
Causes serious eye irritation. May cause respiratory irritation. Causes skin irritation. May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed
If skin irritation or rash occurs, get medical advice/attention.

Section 5 Fire-Fighting measures
5.1 Extinguishing media:

Suitable extinguishing media: Foam, dry chemical, carbon dioxide.

Unsuitable extinguishing media: Water.

5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour. In case of fire may be liberated: Carbon monoxide and carbon dioxide.

5.3 Advice for fire-fighters:

Wear self-contained breathing apparatus. To avoid contact with skin, keep safety distance and wear suitable protective clothing. Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous. Cool exposed containers with water spray, but avoid contact of the substance with water.

Section 6  Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Take care for adequate ventilation. Use personal protective clothing. Keep away sources of ignition. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

6.2 Environmental Precautions:

Prevent product from getting into drains/surface water/groundwater.

6.3 Methods for Containment and Cleaning up:

Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.

6.4 Additional information:

Use only spark proof tools.

Section 7  Handling and storage

7.1 Protective for safe handling:

Technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

Precautions: Practice good housekeeping. Avoid breathing excessive vapors. Avoid contact with skin and eyes. Wash thoroughly after handling.

Safe handling advice: Do not get this material in contact with eyes. Use personal protection recommended in Section 8 of the SDS.

7.2 Storage:

Technical measures: No specific recommendations.

Suitable storage conditions: Keep only in the original container at a temperature not exceeding 30 °C. Protect from light. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. Can polymerize with intense heat release.

Incompatible materials: Not available.

Safe packaging materials: Not available.

Section 8  Exposure control/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:
Not available.

8.1.2 Appropriate engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

8.2 Personal protection:

Eye/face protection: Tightly fitting goggles.

Hand protection: Wear suitable gloves. Gloves should be replaced regularly, especially after extended contact.
### Section 9 Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Ester-like</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point/range (°C)</td>
<td>-75 °C</td>
</tr>
<tr>
<td>Boiling point/range (°C)</td>
<td>163.5 °C</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>46 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td>Ignition temperature (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper/lower flammability/explosive limits</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>2.7 mbar at 20°C</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative Density(25°C)</td>
<td>0.896 g/cm³ at 20°C</td>
</tr>
<tr>
<td>Bulk density (kg/m³)</td>
<td>Not available</td>
</tr>
<tr>
<td>Water solubility (g/l) at 20°C</td>
<td>0.58% at 25°C</td>
</tr>
<tr>
<td>n-Octanol/Water (log Po/w)</td>
<td>2.83</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>290 °C at 1013 hPa</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>1.09 mPa/sec at 20 °C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non explosive</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Non oxidising</td>
</tr>
</tbody>
</table>

#### 9.2 Other information:

- Fat solubility(solvent– oil to be specified) etc: Not available
- Surface tension: Not available
- Dissociation constant in water(pKa): Not available
- Oxidation-reduction Potential: Not available
- Molecular Formula: C₈H₁₄O₂
- Molecular Weight: 141.19

### Section 10 Stability and reactivity

#### 10.1 Reactivity:

The substance is stable under normal storage and handling conditions.

#### 10.2 Possibility of hazardous reactions:

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

#### 10.3 Conditions to avoid:

In compatible materials. The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.

#### 10.4 Incompatible materials:
Strong oxidizing agents

10.5 Hazardous decomposition products:
Carbon monoxide, carbon dioxide.

Section 11  Toxicological information

11.1 Toxicokinetics, metabolism and distribution

Non-human toxicological data: For n-BMA the half-life was 7.8 minutes and 99.7 % was removed by first-pass metabolism in the liver.

11.2 Information on toxicological effects

Acute toxicity:
- LD50 (Oral, Rat): >2000 mg/kg
- LD50 (Dermal, Rabbit): >2000 mg/kg
- LC50 (Inhalation, Rat): 29 mg/L

Skin corrosion/Irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

STOT - single exposure: May cause respiratory irritation.

STOT - repeated exposure: Not classified

Aspiration hazard: Not classified

Section 12  Ecological information

Toxicity:

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Time</th>
<th>Species</th>
<th>Method</th>
<th>Evaluation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>5.57 mg/L</td>
<td>96h</td>
<td>Fish</td>
<td>OECD 203</td>
<td>N/A</td>
</tr>
<tr>
<td>LC50</td>
<td>32 mg/L</td>
<td>48h</td>
<td>Daphnia</td>
<td>OECD 202</td>
<td>N/A</td>
</tr>
<tr>
<td>EC50</td>
<td>31.2 mg/L</td>
<td>72h</td>
<td>Algae</td>
<td>OECD 201</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Persistence and degradability: Butyl methacrylate is considered readily biodegradable.

Bioaccumulative potential: A low potential for bioaccumulation.

Mobility in soil: Koc=1480.

Section 13  Disposal considerations

13.1 Waste treatment methods

Waste is hazardous. It must be disposed of in accordance with the regulations after consultation of the competent local authorities and the disposal company in a suitable and licensed facility.

13.2 Product / Packaging disposal:

Contaminated packaging should be emptied optimally and after appropriate professional cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.

Section 14  Transport information

| Land transport (ADR/RID) | Sea transport (IMDG) | Air transport (ICAO/IATA) |
### Material Safety Data Sheet

**Butyl methacrylate**

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**UN-Number:** 2227

**UN Proper shipping name:** n-BUTYL METHACRYLATE, STABILIZED

**Transport hazard Class:** 3

**Packaging group:** III

**Environmental hazards:** No

**Special precautions for user:** See section 2.2

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**Section15 Regulation information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Whether be recorded by other nations chemicals directory:

- EINECS: Listed
- DSL/NDSL: Listed
- TSCA: Listed
- KECI: Listed
- IECSC: Listed
- ENCS: Listed
- PICCS: Listed
- AICS: Listed

15.2 Downstream users precautions:

Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

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**16 Other information**

16.1 Indication of changes

Version 1.3 Amended by GHS rev 4

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This MSDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.