Butyl Acrylate

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Butyl Acrylate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>2-Propenoic acid butyl ester, Acrylic acid n-butyl ester, Butyl 2-propenoate</td>
</tr>
<tr>
<td>Use</td>
<td>Industrial use, Intermediate, Paint and Coatings, Paper Chemical, Raw material for chemical processes, Raw material for industry</td>
</tr>
<tr>
<td>Company</td>
<td>Sasol Chemicals (USA) LLC</td>
</tr>
<tr>
<td>(an affiliate of Sasol Chemicals North America LLC)</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>12120 Wickchester Lane   Houston TX 77079</td>
</tr>
<tr>
<td>Telephone</td>
<td>CHEMTREC North America Transportation Emergency (24-hr) (800) 424-9300</td>
</tr>
<tr>
<td></td>
<td>CHEMTREC World Wide (703) 527-3887</td>
</tr>
<tr>
<td></td>
<td>Other Emergencies (24-hr) (337) 494-5142</td>
</tr>
<tr>
<td></td>
<td>SDS and Product Information (8:00am-4:30pm CST) (281) 588-3491</td>
</tr>
<tr>
<td></td>
<td>Health and Safety Information (7:30am-4:00pm CST) (281) 588-3492</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:SasolElectronicSDS@us.sasol.com">SasolElectronicSDS@us.sasol.com</a></td>
</tr>
</tbody>
</table>

SECTION 2 HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>OSHA/GHS Hazards</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute toxicity (Inhalation)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Category 3 (Resp. irritation)</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

LABEL ELEMENTS

Hazard symbols

Signal word Warning

Hazard statements

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

H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

**Prevention**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash skin 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.
P273 Avoid release to the environment.

**Response**
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.

**Storage**
P403 + P405 + P235 Store locked up in a well-ventilated place. Keep cool.

**Disposal**
P501 Dispose of contents/container to an approved waste disposal plant.

**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl acrylate</td>
<td>141-32-2</td>
<td>100</td>
</tr>
</tbody>
</table>

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.
SECTION 4  FIRST AID MEASURES

**Eye contact**  Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Skin contact**  Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately.

**Inhalation**  Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

**Ingestion**  Do not induce vomiting without medical advice. Get medical attention immediately. Never give anything by mouth to an unconscious person.

SECTION 5  FIREFIGHTING MEASURES

**FLAMMABLE PROPERTIES**

**Fire/explosion**  Flash back possible over considerable distance. NFPA Class II combustible liquid.

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

**Protective equipment and precautions for firefighters**  Wear self-contained breathing apparatus and protective suit.

**Further information**  Keep containers and surroundings cool with water spray.

SECTION 6  ACCIDENTAL RELEASE MEASURES

**Methods and materials for containment and cleaning up**  Wear personal protective equipment. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

SECTION 7  HANDLING AND STORAGE

**Safe handling advice**  Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from heat and sources of ignition.

**Storage/Transport pressure**  Ambient
Butyl Acrylate

Load/Unload temperature

Ambient

SECTION 8  EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES
Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines). Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Chemical resistant goggles must be worn, Face-shield

Skin Full protective clothing, chemical boots, and chemical gloves.

Inhalation Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>Components</th>
<th>Exposure limit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl acrylate</td>
<td>ACGIH TLV (8-hour) 2 ppm</td>
</tr>
</tbody>
</table>

PEL= Permissible Exposure Limits
TLV= Threshold Limit Value
EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)
STEL= Short Term Exposure Limit (15 min.)
WEEL= Workplace Environmental Exposure Level

SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid;

Colour Clear, colorless

Form liquid

Odour stinging

Odour Threshold No data available

Flash point 41 °C, 105.8 °F;

Flammability Upper explosion limit: 9.9 % (V)

Lower explosion limit: 1.5 % (V)

Boiling point/boiling range 147 °C, 297 °F;

Melting point/range -64 °C, -83 °F;
**SAFETY DATA SHEET**

**Butyl Acrylate**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition temperature</td>
<td>292 °C, 558 °F;</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>5 hPa @ 20 °C, 68 °F;</td>
</tr>
<tr>
<td>Vapour density</td>
<td>4.42</td>
</tr>
<tr>
<td>Density</td>
<td>0.9 g/cm³ @ 20 °C, 68 °F;</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>0.74 mm²/s @ 40 °C, 104 °F;</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>0.88 mPa.s @ 20 °C, 68 °F;</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 2.36; @ 20 °C, 68 °F;</td>
</tr>
</tbody>
</table>

**SECTION 10  STABILITY AND REACTIVITY**

**Reactivity**
The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerise with heat evolution.

**Chemical stability**
Ensure good distribution of the inhibitor and dissolved oxygen. Please take note of the product's maximum storage period.

**Conditions to avoid**
Avoid temperatures above 35°C, direct sunlight and contact with sources of heat. Avoid radical-forming starting agents, peroxides and reactive metals. Protect from contamination.

**Hazardous decomposition products**
No decomposition if stored normally. Prolonged storage of the product can cause the stabiliser to lose its effectiveness.
Butyl Acrylate

Materials to avoid
- Oxidizing agents
- Heavy metal salts
- Acids and bases
- Acid anhydrides
- Polymerisation initiators

Hazardous polymerisation
Hazardous polymerization may occur upon depletion of inhibitor - may cause heat and pressure build-up in closed containers.

SECTION 11  TOXICOLOGICAL INFORMATION

Acute dermal toxicity
LD50 Rabbit: > 2,000 mg/kg (literature value)

Acute inhalation toxicity
LC50 male and female Rat (4 hours): > 10 - 20 mg/l (literature value)

Acute oral toxicity
LD50 Rat: > 2,000 mg/kg (literature value)

Skin corrosion/irritation
(Rabbit): 78 hours irritating, (literature value)

Serious eye damage/eye irritation
(Rabbit): 71 hours irritating, (literature value)

Respiratory or skin sensitisation
Guinea pig: Causes sensitisation.; Maximisation Test

Germ cell mutagenicity
Genotoxicity in vitro:
Type: Ames test
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects (literature value)

Genotoxicity in vivo:
No data available

Assessment Mutagenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity
Reproductive toxicity:
No data available

Assessment Reproductive toxicity:
No data available

Teratogenicity:
No data available
SAFETY DATA SHEET

Butyl Acrylate

Assessment teratogenicity:
No data available

STOT - single exposure
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure
No data available

Aspiration toxicity
No data available

Carcinogenicity
Assessment carcinogenicity:
Contains no ingredient listed as a carcinogen

SECTION 12 ECOLOGICAL INFORMATION

Aquatic toxicity
Harmful to aquatic life with long lasting effects.

Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout)) 96 hours: > 1 - 10 mg/l; static test (literature value)

Toxicity to aquatic invertebrates
EC50 (Daphnia magna (Water flea)) 48 hours: > 1 - 10 mg/l; static test (literature value)

Toxicity to algae
EC50 (Selenastrum capricornutum (green algae)) 96 hours: > 1 - 10 mg/l; static test (literature value)

Chronic toxicity to fish
No data available

Chronic toxicity to aquatic invertebrates
NOEC (Daphnia magna (Water flea)) 21 d: > 0.1 - 1 mg/l; semi-static test (literature value)

Biodegradation
Readily biodegradable.

OECD Test Guideline 310 (28 d): > 60 % (literature value)

Bioaccumulative potential
No bioaccumulation is to be expected (log Pow <= 4).

Mobility in soil
The product evaporates slowly.

Other adverse effects
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).;
SECTION 13  DISPOSAL CONSIDERATIONS

Waste Code  D001 - Ignitability (RQ 100 LB). This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.

Disposal methods  Dispose of only in accordance with local, state, and federal regulations.

Empty containers  Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14  TRANSPORT INFORMATION

DOT  UN 2348, Butyl Acrylates, Stabilized, 3, III

IATA  UN 2348, Butyl Acrylates, Stabilized, 3, III

IMDG  UN 2348, Butyl Acrylates, Stabilized, 3, III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks  No data available

SECTION 15  REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA Inventory Listing  Components  CAS-No.
2-Propenoic acid, butyl ester  141-32-2

SARA 302 Status  Components  CAS-No.  Weight percent
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification
"Fire hazard", "Immediate (acute) health hazard", "Reactive"

SARA 313 Chemical  Components  CAS-No.  Weight percent
2-Propenoic acid, butyl ester  141-32-2  100 %
SAFETY DATA SHEET

Butyl Acrylate

US. EPA CERCLA Hazardous Substances (40 CFR 302)

<table>
<thead>
<tr>
<th>Components</th>
<th>Reportable Quantity</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INTERNATIONAL REGULATIONS

WHMIS Classification
- Flammable liquids: Category 3
- Acute toxicity (Inhalation): Category 4
- Eye irritation: Category 2A
- Skin irritation: Category 2
- Skin sensitisisation: Category 1
- Specific target organ toxicity - single exposure: Category 3 (Resp. irritation)
- Chronic aquatic toxicity: Category 3

European Union
Classification according to Regulation (EU) 1272/2008.

- Flammable liquids, Category 3
- Acute toxicity (Inhalation), Category 4
- Eye irritation, Category 2
- Skin irritation, Category 2
- Skin sensitisisation, Category 1
- Specific target organ toxicity - single exposure, Category 3 (Resp. irritation)
- Chronic aquatic toxicity, Category 3

Australia. Inventory of Chemical Substances (AICS) Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS) Listed
Japan. ISHL - Inventory of Chemical Substances Listed
Canada. Domestic Substances List (DSL) Inventory Listed
Canada. Non-Domestic Substance Listing (NDSL) Not listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS) Listed
Korea. Existing Chemicals Inventory (KECI) Listed
China. Inventory of Existing Chemical Substances (IECSC) Listed
Mexico Listed
New Zealand. Inventory of Chemical Substances Listed
Butyl Acrylate

Switzerland
Listed
Taiwan. National Existing Chemical Inventory (NECI)
Listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65
Components
none

SECTION 16
OTHER INFORMATION

HAZARD RATINGS

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard/Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS®</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>NFPA</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

THE DATA AND INFORMATION CONTAINED HEREIN ARE BEING FURNISHED FOR INFORMATIONAL PURPOSES ONLY, UPON THE EXPRESS CONDITION THAT EACH CUSTOMER SHALL MAKE ITS OWN ASSESSMENT OF APPROPRIATE USE AND APPROPRIATE SHIPPING, TRANSFER AND STORAGE MATERIALS AND PROCEDURES FOR SASOL CHEMICALS (USA) LLC’S PRODUCTS. ALTHOUGH BASED ON INFORMATION SOURCES WHICH SASOL CHEMICALS (USA) LLC CONSIDERS ACCURATE AND RELIABLE, SASOL CHEMICALS (USA) LLC MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE VALIDITY OF THIS INFORMATION, THE INFORMATION SOURCES UPON WHICH THE SAME ARE BASED, OR THE RESULTS TO BE OBTAINED, AND EXPRESSLY DISCLAIMS LIABILITIES FOR DAMAGES OR INJURIES RESULTING FROM THE USE THEREOF.