SAFETY DATA SHEET

according to Regulation CLP 1270/2008

Revision Date Jan. 08, 2018 Version 1.1

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

1.1 Product identifier

Catalogue No.	800832
Product name	Butyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (FPC) No 0102/2009, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).

1.3 Details of the supplier of the safety data sheet

Company	Formosa Plastics Corporation R.O.C.
Responsible Department	Linyuan AE Plant +886-07-6419911 Ext 510

1.4 Emergency telephone number

Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Flammable liquid, Category 3, H226
Eye irritation, Category 2, H319
Specific target organ toxicity - single exposure, Category 3, H335
Skin irritation, Category 2, H315
Skin sensitization, Category 1, H317

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

Classification

		R10
Xi	Irritant	R36/37/38
		R43

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (FPC) No 0102/2009)

Hazard pictograms

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.
H335 May cause respiratory irritation.

Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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.

Reduced labelling (≤125 ml)

Hazard pictograms

Signal word
Warning

Hazard statements
H317 May cause an allergic skin reaction.

Precautionary statements
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

Index-No. 607-062-00-3

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	Xi	Irritant
R-phrase(s)	10-36/37/38-43	Flammable. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.
S-phrase(s)	9	Keep container in a well-ventilated place.
EC-No.	205-480-7	EC Label

Reduced labelling (≤125 ml)

Symbol(s)	Xi	Irritant
R-phrase(s)	10-43	Flammable. May cause sensitization by skin contact.

2.3 Other hazards
None known.

SECTION 3. Composition/information on ingredients

Formula	$CH_2=CHCOO(CH_2)_3CH_3$	$C_7H_{12}O_2$ (Hill)
CAS-No.	141-32-2	
Index-No.	607-062-00-3	
EC-No.	205-480-7	
Molar mass	128,17 g/mol	

SECTION 4. First aid measures

4.1 Description of first aid measures
After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
irritant effects, Allergic reactions, Cough, Shortness of breath

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Carbon dioxide (CO2), Foam, Dry powder
Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Combustible material
Vapours are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Special protective equipment for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Remove container from danger zone and cool with water.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7.2 and 10.5).
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Observe label precautions.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light.

Store at +15°C to +25°C.

7.3 Specific end uses

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

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

Flame retardant antistatic protective clothing

Respiratory protection
required when vapours/aerosols are generated.
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls
Do not empty into drains.
Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	stinging
Odour Threshold	0,001 - 0,099 ppm
pH	No information available.
Melting point	-65 °C

Boiling point/boiling range	147 - 148 °C at 1.013 hPa
Flash point	36,5 °C Method: DIN 51755 Part 1
Evaporation rate	No information available.
Flammability (solid, gas)	not applicable
Lower explosion limit	1,1 %(V)
Upper explosion limit	7,8 %(V)
Vapour pressure	4,3 hPa at 20 °C 29 hPa at 50 °C
Relative vapour density	4,42
Relative density	0,90 g/cm³ at 20 °C
Water solubility	1,4 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 2,36 (experimental) Bioaccumulation is not expected. (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0,75 mPa.s at 20 °C
Explosive properties	Not classified als explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	267 °C Method: DIN 51794

Self-acceleraying polymerization temperature(SAPT)

Onest temperature	170.53 °C
Peak temperature	174.74 °C

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

Sensitivity to light

Please observe stabilisation.

Stabilizer

hydroquinone monomethyl ether

10.3 Possibility of hazardous reactions

Risk of explosion with:

Strong oxidizing agents, Strong acids, strong alkalis, polymerisation initiators

Violent polymerisation may be caused by:

Strong heating.

10.4 Conditions to avoid

Heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: ca. 3.140 mg/kg (External MSDS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

LC50 rat: 10,3 - 11,9 mg/l; 4 h (External MSDS)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract.

Acute dermal toxicity

LD50 rabbit: 1.800 mg/kg (External MSDS)

Skin irritation

Causes skin irritation.

Eye irritation

Causes serious eye irritation.

Sensitisation

May cause an allergic skin reaction.

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

11.2 Further information

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50 Oncorhynchus mykiss (rainbow trout): 5,2 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates.

EC50 Daphnia: 8,2 mg/l; 48 h (External MSDS)

EC5 E.sulcatum: 50 mg/l; 72 h (maximum permissible toxic concentration) (IUCLID)

Toxicity to algae

IC50 Selenastrum capricornutum (green algae): 5,5 mg/l; 96 h (IUCLID)

Toxicity to bacteria

Cell multiplication inhibition test EC5 Pseudomonas putida: 80 mg/l; 16 h (maximum permissible toxic concentration) (IUCLID)

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
log Pow: 2,36
(experimental)

Bioaccumulation is not expected. (Lit.)

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

ADR/RID
UN 2348 BUTYL ACRYLATES, STABILIZED, 3, III
Environmentally hazardous no

IATA
UN 2348 BUTYL ACRYLATES, STABILIZED, 3, III
Environmentally hazardous no

IMDG
UN 2348 BUTYL ACRYLATES, STABILIZED, 3, III
EmS F-E S-D
Marine pollutant no

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard	96/82/EC
Legislation	Flammable. 6 Quantity 1: 5.000 t Quantity 2: 50.000 t
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.

National legislation

Storage class	3

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.

Full text of R-phrases referred to under sections 2 and 3

R10	Flammable.
R36/37/38	Irritating to eyes, respiratory system and skin.
R43	May cause sensitization by skin contact.

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.