



**HAZARD STATEMENTS****[Prevention]**

- Flammable liquid and vapor.
- May be harmful if swallowed.
- May be harmful in contact with skin.
- Harmful if inhaled.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause an allergic skin reaction.
- May cause respiratory irritation.
- May be harmful if swallowed and enters airways.
- Toxic to aquatic life.

**PRECAUTIONARY STATEMENTS****[Prevention]**

- Keep container tightly closed.
- Keep away from ignition sources such as sparks/open flames/hot surface—No Smoking.
- Wear protective gloves and eye/face protection.
- Ground/Bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Take precautionary measures against static discharge.
- Use only non sparking tools.
- Use only outdoors or in a well-ventilated area.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Wash thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.

**[Response]**

- In case of fire : Use dry chemical powder/alcohol-resistant foam/carbon dioxide for extinction.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTRE or doctor/physician if you feel unwell.
- IF ON SKIN : Wash with plenty of soap and water.
- Take off contaminated clothing and wash before reuse.
- Specific treatment is urgent.
- IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- If skin irritation or rash occurs: Get medical advice/attention.
- IF SWALLOWED: Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.
- Wash contaminated clothing before reuse.

**[Storage]**

- Store in a well-ventilated place. Keep cool.
- Store in a well-ventilated place. Keep container tightly close.
- Store lock up.

## [Disposal]

- Dispose of contents/container to consultant expert in accordance with local/regional/national/international regulation.

## Other Hazards which do not result in classification by the GHS:

Although polymerization inhibitors are added, polymerization may be induced by heat, sunlight, peroxide, iron rust, etc. If the polymerization takes place rapidly, temperature rises rapidly, and the accelerated rise of vapor pressure may lead to an explosion.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

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- Substance/Mixture : Substance (inhibited)
- Chemical Name : n-Butyl Acrylate
- Synonyms : 2-Propenoic acid n-butyl ester
- Chemical Formula :  $\text{CH}_2=\text{CHCOOC}_4\text{H}_9$
- Concentration Range : 99.9 %
- CAS Number : 141-32-2

### 4. FIRST-AID MEASURES

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- Inhalation :  
Remove the victim to fresh air immediately. Keep the victim warm and rest. Get immediate medical attention.
- Skin Contact :  
Wash with soap and water. Get immediate medical attention if the blisters and the inflammation are caused in the skin.
- Eye Contact :  
Flush eyes with plenty of water for at least 15 minutes (remove contact lenses if easily possible). Get immediate medical attention. Keep enough opening the eyelid while flushing. Wash every corner of eye
- Ingestion :  
Do not induce vomiting. Give victim one or two glasses of water. Call a physician immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

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- Flammable Properties :  
HMIS Flammability 2  
Flash point 40.1°C (closed up)<sup>2)</sup>  
Auto ignition temperature 284°C .  
Explosion properties Lower explosion limit 1.5 (vol %) <sup>2)</sup>  
Upper explosion limit 9.9 (vol %) <sup>2)</sup>  
Flammable liquid and vapor  
Polymerization with explosive violence.
- Suitable Extinguish Media :  
Use powder, alcohol-resistant foam, carbon dioxide.
- Not Suitable Extinguish Media :  
Do not use water because the liquid often runs over, spreading the fire. <sup>2)</sup>

- Specific Method of Fire Fighting :  
Fight fire from windward. Shut off fuel to fire and use extinguishing agents. If the fire spread around, apply water to cool and protect surrounding area.
- Special Equipment for The Protection Of Firefighters :  
As in any fire, wear self-contained breathing apparatus with full face piece operated in positive pressure mode and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

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- Personal Precautions :  
Evacuate personnel from the lee. Evacuate non essential personnel. Shut off all sources of ignition; No flares, smoking, or flames in the area. Wear proper protective equipment. .
- Environmental Precautions :  
Do not flush to sewer or waterways. Dike with soil. Cover with a sheet to prevent from expanding odor. Because of unpleasant odor, you manage appropriately such that you inform the fact to the resident that leakage occurred.
- Methods For Cleaning Up :  
For small spills, use caustic soda solution 5 to 10% for hydrolysis then wash with water. Process the drainage appropriately (incineration, activated sludge).  
For large spills, enclose the spilled liquid with sand. Recover the liquid while covering it with an oil-resistant antistatic sheet to suppress the evaporation of its vapor and place in a waste disposal container. Then treat this substance with the same way of small spills.

## 7. HANDLING AND STORAGE

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- Handling :
  - Appropriate technical measure :  
Do not breathe vapor. Avoid contact with eyes, skin and clothing. Wear adequate protective equipment. Operate from windward.  
After operation, lock up the container.  
Prevent build up of electrostatic charge (e.g. by grounding).  
Prevent the human body electrification by wearing electrostatic prevention clothes and electrostatic prevention shoes. Use in the local exhaust ventilation.
  - Precautions for safe handling of the chemical product :  
Don't leak, overflow, and scatter. Minimize vapor generation and accumulation. Shut off all sources of ignition; No flares, flame or high temperature substance in the area.  
Do not place close to strong oxidizing materials or peroxides that may cause inflammation of polymerization by contact or mixing. Avoid falling, dropping, shocking and dragging a container.
  - Specific handling advise :Not available
- Storage :
  - Suitable storage conditions :  
When it stores in a tank, keep the liquid temperature below 30 °C and the gas phase concentration of oxygen from 7 to 9 vol%. (in the presence of oxygen under 7 vol%. polymerization may occur.) The electrical apparatus makes explosion-proof construction. The tank and apparatus are grounded. Keep away from heat and flame.

- Storage in small packaging / containers  
Small container must be stored indoors, keep in the well-ventilated areas, avoid direct sunlight and keep away from heat and flame.
- Safe packaging materials :  
Packaging materials which can be sealed. Stainless steel or polyethylene is suitable.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

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- Engineering Measures :  
Facilities storing or utilizing this substance should be equipped with an eyewash facility and a safety shower. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this substance.
- Control Parameters :  
ACGIH(2008) TWA 2 ppm (sensitization)  
OSHA (2008) Not established
- Personal Protective Equipment :  
Respiratory Protection :  
Chemical cartridge respirator for an organic vapor cartridge, supplied-air respirator, self-contained breathing apparatus.  
Hand Protection :  
Chemical resistant gloves.  
Eye Protection :  
Wear safety glasses with side shields or goggles and a face shield.  
Skin and Body Protection :  
Suitable safety clothes and shoes.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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- Appearance
  - Form : Liquid
  - Color : Colorless
- Odor : Strong ester odor
- Odor Threshold :  $2-9 \times 10^{-4}$  ppm<sup>2)</sup>
- pH : 7.0 (20°C Saturated aqueous solution)<sup>1)</sup>
- Boiling Points : 148 °C<sup>2)</sup>
- Initial Boiling Point and Boiling Range : Not Available
- Melting Point : -64.6 °C<sup>2)</sup>
- Decomposition Temperature : Not Available
- Flash Point : 40.1 °C (closed cup)<sup>2)</sup>
- Auto ignition Temperature : 284 °C<sup>2)</sup>
- Flammability : Not Available
- Explosion Properties
  - Lower explosion limit : Upper 9.9 vol% , Lower 1.5 vol%<sup>2)</sup>
  - Dust Explosion : Not Applicable
- Vapor Pressure : 440 Pa (20°C)<sup>2)</sup>
- Vapor Density : 4.42<sup>2)</sup>
- Density/Specific Gravity : 0.900 (g/cm<sup>3</sup> (20°C)) / 0.9003 d<sub>20</sub><sup>20)</sup><sup>2)</sup>
- Rate of Vapouration : Not Available
- Solubility in Water : 0.2 wt% (20°C)<sup>2)</sup>

- Octanol /Water Partition Coefficient : LogK<sub>0/W</sub> 2.38 (25°C) <sup>5)</sup>
- Other data : Not Available

## 10. STABILITY AND REACTIVITY :

- Stability :  
Although polymerization inhibitors are added, polymerization may be induced by heat, sunlight, peroxides, iron rust, etc.
- Possible Hazardous Reactions :  
If stored in the presence of oxygen under 7 vol%, polymerization may occur.
- Conditions To Avoid : Overheat, Contact with materials to avoid or fire.
- Materials To Avoid : Strong oxidizing and peroxide.
- Hazardous decomposition product : not applicable

## 11. TOXICOLOGICAL INFORMATION

- Acute Toxicity :
 

oral	rat	LD <sub>50</sub>	ca.3143 mg/kg	<sup>4)</sup>
inhalation	rat	LC <sub>50</sub>	10.3 mg/L/4H	<sup>4)</sup>
dermal	rabbit	LD <sub>50</sub>	2000-3024 mg/kg	<sup>4)</sup>
- Local Effect  
Skin corrosion/Irritation:
 

skin	rabbit	Irritating	<sup>4)</sup>
skin	CPSC Method (24hr)	Moderate (PII=4.9)	<sup>2)</sup>
skin	OECD Method ( 4hr)	Moderate (PII=3.2)	<sup>2)</sup>

 Serious eye damage/eye irritation : eye rabbit Highly Irritating<sup>5)</sup>
- Sensitization :
 

Skin sensitizing in guinea pig (maximization test).	<sup>4)</sup>
Skin sensitizing reported in human (patch test).	<sup>4)</sup>
- MUTAGENICITY EFFECT :  
[In vitro]
 

This substance was negative in the Ames test. <sup>2).5)</sup>	
Mutation, CHO/HGPRT	negative <sup>2)</sup>
Mutation, L5178Y lymphoma cell TK	positive <sup>2)</sup>
Chromosomal aberration, SCE	positive <sup>2)</sup>
DNA lesion, Irregular DNA synthesis	positive <sup>2)</sup>
Genetic transformation	negative <sup>2)</sup>

 [In vivo]
 

An in vivo UDS assay in rats was negative (OECD Guideline 486) <sup>5)</sup>	
Chromosomal aberrations	: rat negative <sup>2)</sup>
Chromosomal aberrations	: mouse negative <sup>2)</sup>
- Germ Cell Mutagenicity  
[In vitro]
 

Ames test.	negative <sup>5)</sup>
Chromosomal aberration	negative <sup>5)</sup>
Micronucleus test	negative <sup>5)</sup>

- |           |                                     |                 |                                |
|-----------|-------------------------------------|-----------------|--------------------------------|
|           | DNA lesion, Irregular DNA synthesis | negative        | <sup>2)</sup>                  |
|           | Genetic transformation              | negative        | <sup>2)</sup>                  |
| [In vivo] |                                     |                 |                                |
|           | Cytogenetic assay                   | inhalation      | rat negative <sup>5)</sup>     |
|           | Cytogenetic assay                   | inhalation      | hamster negative <sup>5)</sup> |
|           | Chromosomal aberrations             |                 | rat negative <sup>2)</sup>     |
|           | Chromosomal aberrations             | Chinese hamster | negative <sup>2)</sup>         |
- Carcinogenicity :
    - IARC Group 3
    - NTP Not Established
    - EU Not Established
    - OSHA Not Established
    - ACGIH A4
    - Inhalation (2 years) rat no carcinogenic effect up to 135 ppm (0.773 mg/L/day)
    - Dermal rat negative (C<sub>3</sub>H male mouse 1%)
  - Reproductive Toxicity:
    - Inhalation (90 days) rat no effect on reproductive organs <sup>4)</sup>
    - Inhalation rat NOAEL maternal toxicity: 25 ppm (0.13 mg/L/day) <sup>4)</sup>
    - Inhalation rat NOAEL developmental toxicity: 25 ppm (0.13 mg/L/day) <sup>4)</sup>
  - Teratogenicity\_:
    - Inhalation rat NOAEL development toxicity: 100 ppm (1.06ng/L/day) <sup>4)</sup>
    - Inhalation rat NOAEL teratogenicity: 300 ppm (1.6 mg/L/day) <sup>4)</sup>
    - Inhalation rat NOAEL teratogenicity : 250 ppm (1.33 mg/L/day) <sup>4)</sup>

Highest dose test<sup>4)</sup>
- Chronic Toxicity or Long -Chronic Toxicity :
- Single Dose Toxicity : No relevant information found
- Repeated dose toxicity :
- |                      |     |       |                                      |
|----------------------|-----|-------|--------------------------------------|
| oral (90 days)       | rat | NOAEL | 150 mg/kg/day <sup>4)</sup>          |
| inhalation (90 days) | rat | NOAEL | 108 ppm (0.57mg/Lday) <sup>4)</sup>  |
|                      | rat | LOAEL | 211 ppm (1.12mg/L/day) <sup>4)</sup> |
- In experiments using test animals, when this substance at concentrations of from 15 to 135 ppm were inhaled for two years, the main resulting symptoms observed were the tissue change of nostrils' mucous membrane and the opacity of cornea. Those symptoms were also found to become more obvious is the high concentrations of this substance. <sup>2)</sup>
- Aspiration Hazard : No relevant information found

## 12. ECOLOGICAL INFORMATION

- Ecotoxicity
  - Fish :
 

Cyprinodon variegatus	LC <sub>50</sub>	96H	2.1 mg/L <sup>5)</sup>
Salmo gairdneri	LC <sub>50</sub>	96H	5.2 mg/L <sup>5)</sup>
Golden orfe	LC <sub>50</sub>	48H	23 mg/L <sup>2)</sup>
Golden fish	LC <sub>50</sub>	72H	5 mg/L <sup>2)</sup>
Bluegill	LC <sub>50</sub>	96H	100 mg/L <sup>2)</sup>
Rainbow trout	LC <sub>50</sub>	96H	5.2 mg/L <sup>2)</sup>
Killifish	LC <sub>50</sub>	1H	190 mg/L <sup>3)</sup>
Killifish	LC <sub>50</sub>	2H	136 mg/L <sup>3)</sup>
Killifish	LC <sub>50</sub>	4H	59 mg/L <sup>3)</sup>

Killifish	LC <sub>50</sub>	24H	11 mg/L <sup>3)</sup>
Killifish	LC <sub>50</sub>	48H	11 mg/L <sup>3)</sup>
Killifish	LT <sub>50</sub>	2.1H	125 mg/L <sup>3)</sup>
Killifish	LT <sub>50</sub>	0.8H	250 mg/L <sup>3)</sup>
Killifish	LT <sub>50</sub>	<0.5H	500 mg/L <sup>3)</sup>
Killifish	LT <sub>50</sub>	<0.5H	1000 mg/L <sup>3)</sup>
Crustacea :			
Daphnia magna	EC <sub>50</sub>	48H	8.2 mg/L <sup>5)</sup>
Daphnia	LC <sub>50</sub>	24H	42 mg/L <sup>2)</sup>
Daphnia	EC <sub>50</sub>	96H	2.6 mg/L <sup>2)</sup>
Algae or other aquatic plants :			
Selenastrum capricornutum	EC 50	96H	2.6 mg/L <sup>4)</sup>
Green algae	EC	8Days	9.3 mg/L <sup>2)</sup>
Green algae	EC 50	96H	5.5 mg/L <sup>2)</sup>
Blue algae	EC	8 Days	1.3 mg/L <sup>2)</sup>
• Persistence/degradability :			
TOD	: 2.25 <sup>2)</sup>		
BOD <sub>5</sub>	: 1.16 (exposed for 5 days) <sup>2)</sup>		
COD	: 1.63 <sup>2)</sup>		
Biodegradability	: Biodegradable <sup>Nin)</sup>		
• Bioaccumulation : This substance not bioaccumulative <sup>2)</sup>			
• Mobility : Not available			

### 13. DISPOSAL CONSIDERATION

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- Water from residues :  
Burn in a chemical incinerator equipped with an afterburner and scrubber. Consult an expert on the disposal of recovered material. Activated sludge process can be used to process waste water.
- Any contaminated packaging :  
Do not put other material into the used container and do not use it for another purpose. Treat the above content by burned. Wash the inside of the container before disposal. Recycling drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.
- Comply with all federal, state and local regulation.
- Do not dump this product into sewer, on the ground or into any body of water.

### 14. TRANSPORT INFORMATION

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- The transportation hazard classification number [IMDG]  
Proper shipping name : BUTYL ACRYLATE, STABILIZED  
UN class : 3  
UN number : 2348  
Packing group : III  
Marine pollutant : Not applicable



- Specific precautionary transport measures and condition :  
Avoid falling, dropping, shocking and dragging container.  
Protect a container from direct sunlight.  
Secure the grounding of the vehicle to avoid static electrification before starting the liquid transfer. After discharging the product from a tank lorry, the remnant liquid in piping must be completely eliminated.
- Any transportation practice must be in compliance with laws and regulation in your country or region.

## 15. REGULATORY INFORMATION

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- US STATUS :
  - OSHA status : Not listed
  - TSCA Inventory : Listed
  - SARA TITLE III 313 : Listed
- EU STATUS :
  - REACH Registration : 01-2119453155-43
  - REACH Restriction (EC No. 1907.2006) : Not listed in annex XIV
  - Classification & labeling  
(EC) 1272/2008 (CLP)
  - [CLASSIFICATION]

Flam. Liq. 3	H226
Eye Irrit. 2	H319
STOT SE 3	H335
Skin Irrit. 2	H315
Skin Sens. 1	H317

  - [LABELING]

GHS02	H226
GHS07	H319
Wng	H335
	H315
	H317

  - [67/548/EEC]

R10	
Xi;R36/37/38	
R43	
- Registration STATUS in the lists of existing chemicals of various countries
  - Canada (CEPA) : Listed in DSL
  - Japan (ENCS) : (2)-989
  - Australia (AICS) : Listed
  - Korea (ECL) : KE-29450
  - Switzerland (SWISS) : (EINECS) 205-480-7
  - Philippine (PICCS) : Listed
  - China (SEPA) : Listed
- Restriction at export : Not Applicable
- Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

## 16. OTHER INFORMATION

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MSDS Distribution : The information in this document should be made available to all who may handle the product.

Prepared By : Quality Control Department.  
Global Chemie ASCC Limited

Disclaimer :	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty of guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.
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