

## GPS Safety Summary

This Product Safety Summary is intended to provide a brief overview of the information on the risk assessment results of the chemical product that we manufacture based on the chemical industry's Global Product Strategy (GPS) to the general public as a social responsibility of a company that manufacture chemical substances.

This summary is not intended to provide technical information including effects on human health and the environment and details of risk assessment. In addition, it is not intended to be prepared as a document to replace a Safety Data Sheet (SDS) or a risk assessment report like a Chemical Safety Report under the REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) (REACH CSR). Although the summary is prepared based on the laws, materials, information and data that are available at the present moment, it does not provide any assurances.

### SUBSTANCE NAME

## Butyl acrylate (Butyl acrylate, CAS No. 141-32-2)

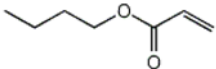
### GENERAL STATEMENT

Butyl acrylate is a colorless liquid with characteristic odor. Butyl acrylate is used to make fiber treating agent, adhesive, paint, synthetic resins, acrylic rubber and emulsion.

Butyl acrylate is a flammable liquid, therefore it is important to keep away from heat, sparks, open flames or hot sources. Butyl acrylate causes toxic if inhaled, causes skin irritation, causes serious eye irritation, may cause an allergic skin reaction, may cause respiratory irritation and may be harmful if swallowed and enters airways. Though Butyl acrylate is toxic to aquatic life, Butyl acrylate is biodegradable and low bioaccumulative.

It is recommended to wear appropriate protective masks, gloves when sampling for manufacturing. To minimize the adverse effects of Butyl acrylate on environmental organisms and control its release into the environment, the sewage equipment should be monitored regularly and the sewage treatment facility should be maintained and inspected in the factory.

### CHEMICAL IDENTITY

Item	Contents
Generic name	Butyl acrylate
Trade name	Butyl acrylate
Chemical name	Butyl acrylate (IUPAC name: Butyl acrylate)
CAS No.	141-32-2
Other numbers	Reference No. listed in the official gazettes (Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., Industrial Safety and Health Act) (2)-989 EC No. 205-480-7
Molecular formula	C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>
Structural formula	

Other information          None in particular

## USES AND APPLICATIONS

Intended uses of our product      Fiber treating agent, adhesive, paint, synthetic resins, acrylic rubber and emulsion

## PHYSICAL/CHEMICAL PROPERTIES

Appearance (physical state)	Liquid
Color	Colorless
Odor	Characteristic odor
Specific gravity (relative density)	0.9
Melting point/boiling point	-64.6 /148 °C
Combustibility/flammability	Flammable liquid (Category 3)
Flash point	40.1 °C (closed cup)
Limit of combustion or explosion	1.7 - 9.9 vol %
Auto ignition temperature	284 °C
Vapor pressure	440 Pa (20°C)
Molecular weight	128.17
Water solubility	0.14 g/ 100 mL (20°C)
Octanol-water partition coefficient	LogKow : 2.36 (20°C)

## HEALTH EFFECTS

Effect assessment	Results (GHS <sup>*1</sup> hazard classification)
Acute toxicity (oral ingestion)	Not classified <sup>*2</sup>
Acute toxicity (inhalation)	Not applicable <sup>*3</sup> (gas) Toxic if inhaled (Category 3) Classification not possible <sup>*4</sup> (dust/mist)
Acute toxicity (dermal)	Not classified
Skin corrosion/irritation	Causes skin irritation (Category 2)
Serious eye damage/eye irritation	Causes serious eye damage (Category 2)
Respiratory sensitization	Classification not possible
Skin sensitization	May cause an allergic skin reaction (Category 1)
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Classification not possible
Specific target organ toxicity (Single exposure)	May cause respiratory irritation (Category 3, Respiratory tract irritation)
Specific target organ toxicity (Repeated exposure)	Classification not possible
Aspiration hazard	May be harmful if swallowed and enters airways (Category 2)
Source/remarks	<sup>*1</sup> GHS: Globally Harmonized System of Classification and Labelling of Chemicals. This system enables us to classify chemicals by hazard type and degree according to globally harmonized rules. <sup>*2</sup> Not classified: Hazardousness much lower than the lowest hazard class specified by GHS

\*<sup>3</sup> Not applicable: Because the physical properties defined by GHS are not met, the chemical is not included in the target chemicals of the classification.

\*<sup>4</sup> Classification not possible: The data needed for judging classification are not available at all or sufficient data are not collected for classification.

## ENVIRONMENTAL EFFECTS

Effect assessment	Results (GHS hazard classification)
Hazardous to the aquatic environment (acute)	Toxic to aquatic life (Category 2)
Hazardous to the aquatic environment (chronic)	Not classified
Environmental fate/dynamics	Results
Transfer in the environment	Low volatility from water and low soil absorption
Biodegradability	Readily biodegradable
Bioaccumulation	Low bioaccumulative potential
Conclusion of PBT/vPvB	Not judged to be PBT* and vPvB**.
	*PBT: Persistent, bioaccumulative and toxic (Remaining in the environment and having high bioaccumulative and strong toxic properties)
	**vPvB: very Persistent and very Bioaccumulative (Readily remaining in the environment and having very high bioaccumulative property)

## EXPOSURE

Details	No.	Potential exposure in the process of use of our products (exposure route)
Occupational Exposure	1-1	Thorough sampling and transfer of substance (inhalation, skin/eye contact). However Butyl acrylate is produced in a closed process, potential for occupational exposure is extremely low.
Consumer exposure	2-1	This material is not used by consumers and therefore the potential for consumer exposure is extremely low.
Environmental exposure	3-1	Through sampling and transfer of substance (mainly into water). However Butyl acrylate is manufactured in a closed system process, the possibility of environment release is very low. It is liquid at normal temperature and normal pressure. In the case of environmental release, though it is considered to disperse into water, it is expected to be degraded in water rapidly.
Note		If there is a potential for exposure in other uses, take appropriate measures in reference to the risk management recommends.

## RISK MANAGEMENT RECOMMENDATIONS

Details	No.	Management recommendations based on our risk assessment results
Occupational Exposure	1-1	Wear appropriate protective masks, clothing and gloves made of materials that Butyl acrylate does not penetrate during sampling operation. While handling Butyl acrylate, manage and control its environmental concentration so that it is lower than the threshold limit value 2 ppm (TWA – time weighted average value) recommended by ACGIH.

		The operation manager instructs workers how to select and use the appropriate protective equipment and how to manage the work place.
Consumer exposure	2-1	None
Environmental exposure	3-1	Butyl acrylate may affect environment if leaked. Take measures to prevent leakage, and take due care in daily management and handling.
Other warnings		None
Note		For the measures and actions to be taken for regular handling, emergency situations, disposal and transportation, see Section 4, 5, 6, 7, 8, 13 and 14, SDS issued by Mitsubishi Chemical Corporation.

## STATE AGENCY REVIEW

Assessment document	Review condition
OECD HPV	<a href="http://www.chem.unep.ch/irptc/sids/OECDSDS/141322.pdf">http://www.chem.unep.ch/irptc/sids/OECDSDS/141322.pdf</a>
National Institute of Evaluation and Technology (NITE) - Preliminary Risk Assessment of Chemical Substances	No information
Ministry of Environment - Preliminary Environment Risk Assessment of Chemical Substances	<a href="http://www.env.go.jp/chemi/report/h19-03/pdf/chpt2/2-2-2-02.pdf">http://www.env.go.jp/chemi/report/h19-03/pdf/chpt2/2-2-2-02.pdf</a> <a href="http://www.env.go.jp/chemi/report/h21-01/pdf/chpt1/1-2-2-02.pdf">http://www.env.go.jp/chemi/report/h21-01/pdf/chpt1/1-2-2-02.pdf</a>
REACH	<a href="http://apps.echa.europa.eu/registered/registered-sub.aspx">http://apps.echa.europa.eu/registered/registered-sub.aspx</a>

## REGULATORY INFORMATION / LABELLING INFORMATION

### Main regulatory information

Law	Regulatory condition
UN class	3
UN No.	2348
Fire Service Act	Hazardous Materials Class 4, Class 2 Petroleum, Non-aqueous, Hazard Class III
Ship Safety Act	Hazardous Substance List, Separate Table 1 Flammable Liquids
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.	Priority Assessment Chemical Substances
Industrial Safety and Health Act	Enforcement Order, Appended Table 1, Dangerous Substances (4) Inflammable Substances Article 57-2 Paragraph 2 Substance Requiring notification Circular notice, Industrial and safety standard (182, skin sensitization)
Pollutant Release Transfer Register	Class I designated chemical substances
Civil Aeronautics Act	Substances Approved for Transportation, 3. Flammable Liquids
Others	Act for the Prevention of Marine Pollution and Maritime Disasters: Marine Pollutants in the Case of Bulk Transportation (Category Y)

Labelling information

Pictograms or symbols



Signal Word

Danger

Hazard statement

- Flammable liquid and vapour
- Toxic 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

**CONTACT INFORMATION WITHIN COMPANY**

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**DATE OF ISSUE / REVISION, ADDITIONAL INFORMATION**

Ver. 1 : Issued on march 26, 2014 (JP revised version 1: issued on July 30, 2012)  
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