GHS Classification

ID630 Butyl acrylate

CAS 141-32-2 Date Classified: Jun. 20, 2006 (Environmental Hazards: Mar. 31, 2006)

Physical Hazards Reference Manual: GHS Classification Manual (Feb. 10, 2006)

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Explosives	Not classified	–	–	–	Not classified based on UNRTDG Class: 3, though containing unsaturated C-C bonds as chemical groups associated with explosive properties present.
2	Flammable gases	Not applicable	–	–	–	Liquid (GHS definition)
3	Flammable aerosols	Not applicable	–	–	–	Not aerosol products
4	Oxidizing gases	Not applicable	–	–	–	Liquid (GHS definition)
5	Gases under pressure	Not applicable	–	–	–	Liquid (GHS definition)
6	Flammable liquids	Category 3	Flame	Warning	Flammable liquid and vapour	Category 3 because of its flash point: 29degC
7	Flammable solids	Not applicable	–	–	–	Liquid (GHS definition)
8	Self-reactive substances and mixtures	Not classified	–	–	–	Not classified based on UNRTDG Class: 3, though containing unsaturated C-C bonds as chemical groups associated with self-reactive properties present
9	Pyrophoric liquids	Not classified	–	–	–	Flash point: 267degC (Hommel, 1991)
10	Pyrophoric solids	Not applicable	–	–	–	Liquid (GHS definition)
11	Self-heating substances and mixtures	Not classified	–	–	–	Not classified because of UNRTDG Class: 3
12	Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	–	–	–	The chemical structure of the substance does not contain metals or metaloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13	Oxidizing liquids	Not applicable	–	–	–	Organic compounds containing oxygen (but not chlorine and fluorine) chemically bonded only to carbon (but not to other elements).
14	Oxidizing solids	Not applicable	–	–	–	Liquid (GHS definition)
15	Organic peroxides	Not applicable	–	–	–	Organic compounds containing no -0-0- structure
16	Corrosive to metals	Classification not possible	–	–	–	No data available

Health Hazards

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Category 5	–	Warning	May be harmful if swallowed	It was set as Category 5 based on LD50= 4349mg/kg calculated according by the technological guideline using 14 test results of rat LD50 (SIDS (2002), ECETOC JACC 27 (1994)).
1	Acute toxicity (dermal)	Category 5	–	Warning	May be harmful in contact with skin	It was set as Category 5 based on LD50 = 2054mg/kg calculated by the technical guideline using five test results of rabbits (SIDS (2002), ECETOC JACC 27 (1994)).
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	It seems that the inhalation test was done with vapor since saturated vapor pressure concentration was 5248ppm. From eight rat test results (SIDS (2002), ECETOC JACC 27 (1994)) , it was classified as Category 3 based on LC50 = 2026ppm converted from LC50 = 10.6mg/L calculated based on the technological direction.
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	–	–	–	No data available
2	Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on statement that moderate to severe erythema and dropsy are observed on rabbits (SIDS (2002)), that there is skin irritation on humans and that the skin disease of papular erythematous was observed (SIDS (2002), DFGOT vol.5 (1993)), and the fact that it is classified into Xi; R36/37/38 in EU (EU-Annex I (2005)), it was classified as Category 2.
3	Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	There is a statement that in the rabbit, irritation was indicated in the eye (ECETOC JACC 27 (1994), SIDS (2002)), slight muddiness was produced in corneal (ECETOC JACC 27 (1994), SIDS (2002)), and moderate to serious injury was produced (SIDS (2002)) etc., and it is classified into X;R36/37/38 in EU (EU-Annex I (2005)). So it was set as Category 2A-2B.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: No data Skin sensitization: The guinea pigs indicate prolonged contacted skin hypersensitivity. There are statements which show sensitization (SIDS (2002)), ECETOC JACC 27 (1994), ACGIH (7th, 2003). Many statements say that this product causes allergic contact dermatitis based on the result of a patch test in humans (SIDS (2002)), DFGOT vol.5 (1993), IARC71 (1999), and ECETOC JACC 27 (1994). It is mentioned by the Japanese occupation and the environmental allergology meeting as a sensitizing chemical (ALGY society's (feeling) substance list (proposal)). It is classified as R43 by EU (EU-Annex I (2005)).Based on all of them it was referred to as Category 1.

5	Germ cell mutagenicity	Not classified	–	–	–	We found no human over generation epidemiology, the over generation mutagenicity test, and the productive cell in vivo mutagenicity test result. And it gave negative in the in vivo mutagenicity tests (chromosomal aberration test using mammalian bone marrow cells) using the somatic cells (SIDS (2002), ACGIH (7th, 2003), ECETOC 27 (1994), and DFGOT vol.5 (1993)). Therefore we classified it as Out Of Category by the technical guideline.
6	Carcinogenicity	Not classified	–	–	–	Based on what it is classified into 3 according to IARC (IARC 71 (1999)), and is classified into A4 according to ACGIH (ACGIH (7th, 2003)), it considered as the outside of Category.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the undorn child	Since there is the description that there is the embryonic lethality, the decreased neonatal weight and decrease of viable fetus in rat inhalation test at dose causing general toxicity to parent animals (SIDS (2002), ECETOC JACC 27 (1994)), and there is the description that there is the embryonic lethality, the decreased neonatal weight and teratogenicity in the mouse oral administration and inhalation test (SIDS (2002), ECETOC JACC 27 (1994), PATTY (5th, 2001)), it was classified into the Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract	Based on the statements that irritation to the respiratory tract in rats was identified (SIDS (2002)) and that nasal discharges increased and hyperemia of the mucous membranes was observed (SIDS (2002), ECETOC JACC 27 (1994)), it was set as Category 3 (Airway irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	–	–	–	Although lack of a cell and the hyperplasia which compensates this on the olfactory sensory epitheliums of nose were seen in a rat by the dose within the limits of the guidance value (0.2–1.0 mg/L) of Category 2 (DFGOT vol.12 (1999)), it is affected in the long term exposure such as 12 months, and there is a statement that effects on the olfactory in human are reversible (SIDS (2002)). In addition, although there is also a statement of weight reduction etc. by the dosage of guidance value within the limits of Category 2 (SIDS (2002)), the extent is unknown. According to these things, it was presupposed to be unclassified due to lack of data.
10	Aspiration hazard	Category 2	Health hazard	Warning	May be harmful if swallowed and enters airways	Category 2 because of "possible to classify into Aspiration hazard." (ICSC Card)

Environmental Hazards

Hazard class		Classification	symbol	signal word	hazard statement	Rational for the classification
11	Hazardous to the aquatic environment (acute)	Category 2	–	–	Toxic to aquatic life	It was classified into Category 2 from 72-hour ErC50=1.7mg/L of algae (Selenastrum) (MOE eco-toxicity tests of chemicals, 1999).
11	Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Since rapidly degrading (BOD: 61.3% (existing chemical safety inspections data)), and less bio-accumulative (log Kow=2.36 (PHYSPROP Database, 2005)).