GHS Classification

ID733 1-methylbutyl acetate

CAS 626-38-0 Date Classified: Mar. 15, 2007 (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 applicable	–	–	–	There are no chemical groups associated with explosive properties present in the molecules.
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 2	Flame	Danger	Highly flammable liquid and vapour	Flash point: <32degC, Boiling point: 121degC
7	Flammable solids	Not applicable	–	–	–	Liquid (GHS definition)
8	Self-reactive substances and mixtures	Not applicable	–	–	–	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9	Pyrophoric liquids	Not classified	–	–	–	Not ignite spontaneously on coming into contact with air at normal temperatures
10	Pyrophoric solids	Not applicable	–	–	–	Liquid (GHS definition)
11	Self-heating substances and mixtures	Classification not possible	–	–	–	Test methods applicable to liquid substances are not available
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)	Not classified	–	–	–	It is a value in an isomer mixture. But there is the report (DFGOT vol.11 (1998)) that rat LD50 is 6500mg/kg, it was set as the outside of Category.
1	Acute toxicity (dermal)	Not classified	–	–	–	It is a value of isomer mixture. But there is a report (ACGIH (2001), DFGOT vol.11 (1998)) that rabbit LD50 : 17400mg/kg or more, it is considered as the outside of Category.
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Classification not possible	–	–	–	There is a report that even if rats are exposed to the saturated vapor (about 5200ppm) of the pentyl acetic acid isomer mixture (most is 1-pentyl acetate) for 4 hours, there is no mortality (ACGIH (2001), DFGOT vol.11 (1998)). But this data is not sufficient for the classification. Category 5 or out of Category is presumed from this data.
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	–	–	–	No data available
2	Skin corrosion / irritation	Not classified	–	–	–	There is a report on isomer mixture that skin irritations in short-term exposure is thought to be weak or none (ACGIH (2001), DFGOT vol.11 (1998)). Therefore, it was classified as out of Category. Skin irritation and defatting of the skin were observed in repeated exposure.
3	Serious eye damage / eye irritation	Category 2B	–	Warning	Causes eye irritation	There is eye irritation in the human vapor exposure (ACGIH (2001), PATTY (2001)). And weak eye irritations is admitted in the test dropped at the eye of the rabbit (ACGIH (2001)). So it is set as Category 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: Although sensitization is not identified in humans [ACGIH and (2001)] DFGOT vol.11 (1998), weak sensitization has been identified in animal tests(ACGIH (2001), PATTY (2001)). Therefore it is referred to as Category 1.
5	Germ cell mutagenicity	Classification not possible	–	–	–	In the in vitro examination of pentyl acetates, we found the reports that it had no mutagenicity or weak if any (ACGIH (2001), PATTY (2001), DFGOT vol.11 (1988)), however, there was no report of the in vivo examination. Therefore we could not classify it.
6	Carcinogenicity	Classification not possible	–	–	–	Classification not possible due to lack of data
7	Toxic to reproduction	Classification not possible	–	–	–	Although there is data which has"no effects" on pregnant females of rats and of rabbits, since there is no impact data on genitalia of male, it cannot be classified.

8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory); Category 3 (narcotic effects)	Health hazard	Warning	May cause damage to organs (respiratory); May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	In humans, it has the effect on lungs (RTECS (2001)). In guinea pig inhalation study, effects on the lungs is seen within the guidance value of category 2 (ACGIH (2001)). Moreover, since respiratory irritation is seen in humans (DFGOT vol.11 (1998)) also in an animal studies (ACGIH (2001)), it is set as Category 2 (respiratory systems). Since having an effect of anesthetic actions (ACGIH (2001)) and lethargica (RTECS (2004)) in inhalation tests in animals is reported, it classifies into Category 3 (anesthetic actions).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (Optic nerve); Category 2 (spleen, kidneys, liver)	Health hazard	Danger	Causes damage to organs (Optic nerve) through prolonged or repeated exposure; May cause damage to organs (spleen, kidneys, liver) through prolonged or repeated	Acting on the human optic nerve is reported. Moreover, it was classified into Category 1 (optic nerve) according to that the optics nerve effects is observed also in the test using a rabbit (DFGOT vol.11 (1998)). In the study using a rabbit in the range of guidance values of Category 2, affecting the organization and function of these internal organs such as hypertrophy of a spleen follicle, trabecura of spleen sclerosis,and the congestion of renal glomerulus and kidney tubules, and fatty degeneration of liver are reported (DFGOT vol.11 (1998)). According to that, it was classified into Category 2 (a spleen, kidney, liver).
10	Aspiration hazard	Classification not possible	–	–	–	No data available

Environmental Hazards

Hazard class		Classification	symbol	signal word	hazard statement	Rational for the classification
11	Hazardous to the aquatic environment (acute)	Classification not possible	–	–	–	No data available
11	Hazardous to the aquatic environment (chronic)	Classification not possible	–	–	–	No data available.