

GHS Classification

ID83

Aniline, 2-methoxy-

CAS 90-04-0

Date Classified: Feb. 20, 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	Not classified	–	–	–	Flash point: 98degC (Hommel, 1991) Boiling point: 225degC (Merck, 13th, 2001)
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	–	–	–	Flash point: 415degC(ICSC (1999))
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 metalloids(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	–	–	–	Containing no –O– structure
16 Corrosive to metals	Not classified	–	–	–	UNRTDG No. 2431, Class: 6.1, PG III

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 2000 mg/kg REFERENCE SOURCE: PATTY (5th, 2001)
1 Acute toxicity (dermal)	Not classified	–	–	–	Based on not having observed fatal cases in 2000mg/kg in a rat (EU-RAR (2002)), it was set as the outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	–	–	–	Classification not possible due to lack of data
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	–	–	–	As aerosol, it is rat LC50 >3.87mg/L (EU-RAR (2002)). Since Category could not be specificked, it presupposed it cannot classify.
2 Skin corrosion / irritation	Category 3	–	Warning	Causes mild skin irritation	Erythema and slight edemas were observed in the skin irritation test on rabbits based on the OECD guideline 404. But all were described to have disappeared within 72 hours after patch removal (EU-RAR (2002)). Therefore it was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2B	–	Warning	Causes eye irritation	Although dropsy and redness of a conjunctiva, iritis, and keratitis were observed in the eye stimulativeness examination of the rabbit based on the OECD guideline 404, all were disappear within seven days after apply (EU-RAR (2002)). So it was set to Category 2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	Skin sensitization test using guinea pigs assesses this as “a weak sensitization” (EU-RAR (2002) and there is a report that the frequency of atopic dermatitis became high among children who are exposed to a mixture including this product in humans (EU-RAR (2002)). However, it appends a note that adequacy is lacking in the former (guinea pigs) because of insufficient information, and it describes that it is difficult to evaluate whether this product is a cause beause the exposing mixture includes 20 or more substances in the latter (humans). Therefore, we classified this as “uncategorizable” because of insufficient data.

5	Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	All the results of the micronucleus tests in rats and mice, which were done as in vivo mutagenicity tests using somatic cells, are negative (DFGOT vol.10(1998)). But induction was observed in the gene mutation test using transgenic mice (EU-RAR (2002)). So the substance was classified as Category 2 by the guidelines. There are also positive results from some in vivo DNA synthesis tests or DNA adduct tests and host mediated assays (DFGOT vol.10 (1998)).
6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	It is classified into 2B in IARC and into A3 in ACGIH at almost same period. A GHS classifications is set as Category 2 even if either was adopted.
7	Toxic to reproduction	Classification not possible	–	–	–	Classification not possible due to lack of data
8	Specific target organs/systemic toxicity following single exposure	Category 2 (central nervous system, blood system)	Health hazard	Warning	May cause damage to organs (central nervous system, blood system)	After more than 690mg/kg of the substance was orally administered to rats, vascular stasis and increase in methaemoglobin level as well as central symptoms, such as curling up, staggering, decrease in locomotor activity, vertigo (DFGOT vol.10 (1998), EU-RAR (2002)), cyanosis (EU-RAR (2002)) were observed. Central symptoms were slightly observed after the exposure to 3.87mg/L by inhalation (DFGOT vol.10 (1998)). The substance was classified as Category 2 (central nervous system, blood) based on these results.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood)	Health hazard	Warning	May cause damage to organs (blood) through prolonged or repeated exposure	Due to the description that in the four-week repeated oral administration study using rat, the hemolytic anemia was occurred in more than 80 mg/kg dose (EU-RAR (2002), DFGOT vol.10 (1998)), it was classified into Category 2 (blood). In addition, in human, although anemia did not appear in the workers who were exposed for six months in ortho anisidine (0.4 ml/m3) day for 3.5 hours per day, the increase of sulfhemoglobin and methemoglobin are observed (DFGOT vol.10(1998)).
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)	Category 2	–	–	Toxic to aquatic life	It was classified into Category 2 from 48-hour EC50=6800microg/L of Crustacea (Daphnia magna), and others (MOE Risk Assessment No.2, 2003).
11 Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Since rapidly degrading (the decomposition of TOC: 83% (Existing Chemicals Safety Check Data)), and supposed less bio-accumulative (log Kow=1.18 (PHYSPROP Database, 2005)).