

GHS Classification

ID240

4-aminoazobenzene

CAS 60-09-3

Date Classified: Aug. 18, 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 applicable	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
2 Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Classification not possible	-	-	-	No data available
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 applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Classification not possible	-	-	-	No data available
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to liquid or solid substances at 140degC 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	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Containing no oxygen, chlorine and fluorine.
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Liquid at a test temperature, 55degC. Test methods applicable to solid substances are not available.

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: 1450 mg/kg, 1640 mg/kg REFERENCE SOURCE: BUA 217 (2000)
1 Acute toxicity (dermal)	Not classified	-	-	-	From description that mortality was not observed at 2000mg/kg in the dermal administration test using rats (BUA 217 (2000)), it was set as the outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	There was description that death was not acknowledged by rat 4-hour exposure of 2.8mg/L in the inhalation exposure test (BUA 217 (2000)). But there is no data in the concentration beyond this, and it cannot classify since data is insufficient for carrying out the outside of Category.
2 Skin corrosion / irritation	Classification not possible	-	-	-	There is possibility of being out of Category from statement that irritation was not observed in the rabbit skin irritation test (BUA 217 (2000)). But there is no statement in Priority 1 that clearly negates hazard, it cannot be classified.
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	There is possibility besides Category from description that transient redness is only admitted and that it is in the test applied to the eye of the rabbit (BUA 217 (2000)). But there being no data which negates hazard clearly in Priority 1, it cannot classifications.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(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: Classified as Category 1 because BUA 217 (2000) describes a large number of reports that show positive sensitization in humans.

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)	Although there are positive results from the micronucleus tests using mouse erythrocytes, which are in vivo mutagenicity tests using somatic cells (BUA 217, 2000, RETCS, 2005), there is no positive result from in vivo genotoxicity tests using germ cells. So the substance was classified as Category 2.
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 category 2 in EU (EU-Annex I, a proposal year is unknown). But it is classified into 2B (IARC Suppl.7, 1987) according to IARC and is classified into 2B (Japan Society for Occupational Health recommendation, 1991 proposals) in Japan Society for Occupational Health. So it was set as Category 2 according to the section of Japan Society for Occupational Health which is the latest evaluation document.
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 (blood system)	Health hazard	Warning	May cause damage to organs (blood system)	It was classified into Category 2 (blood). Due to the description of increasing methemoglobin concentration and cyanosis were observed in the inhalation exposure test using rat in BUA 217 (2000).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Classification not possible due to lack of data
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 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 48-hour EC50=0.07mg/L of Crustacea (Ceriodaphnia) (BUA217, 2000).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, not rapidly degrading (BOD: 0% (existing chemical safety inspections data)), though less bioaccumulative (BCF=42.4 (existing chemical safety inspections data)).