

GHS Classification

ID562

Sodium azide (Na(N3))

CAS 26628-22-8

Date Classified: Mar. 23, 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 in UNRTDG Class: 1 and Subsidiary risks Class, though containing azido groups.
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	-	-	-	Individual literature citations vary about a flammable. The data with tests defined by the United Nations is not found. It is not classified into the United Nations class 4.1.
8 Self-reactive substances and mixtures	Type G	-	-	-	Not classified in UNRTDG Class: 4.1, but Class: 6.1 (though containing azido groups)
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-pyrophoric at a room temperature
11 Self-heating substances and mixtures	Not classified	-	-	-	No data available on self-heating
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Hydrogen azide is not generated when it melts in neutral waters.
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Containing no oxygen, chlorine and fluorine.
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Classification not possible	-	-	-	Although there is information that it corrodes aluminum strongly, there is no experimental data of the metal corrosion rate. It is not classified into a class 8 according to UNRTDG, either.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	Category 2 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 45mg/kg; REFERENCE SOURCE: DFGOT vol.20 (2003)
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	Since rabbit percutaneous LD50 value was 20mg/kg (ACGIH (2001)), it was set as Category 1.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	The steam pressure at normal temperature (1 Pa) is less than rat inhalation LC50 (37mg/m3) (RTECS (2004)).
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	It cannot taxonomic according to lack of information. The information on RTECS (2004) is not clear in a chemical exposure forms. (a dust, cracked gas)
2 Skin corrosion / irritation	Category 1C	Corrosion	Danger	Causes severe skin burns and eye damage	It judged to be "Category 1C" from corrosivity in animal test result and 4 hour contact (DFGOT vol.20 (2003)).
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Since skin corrosivity was Category 1C, the eye was also set to "category 1."
4 Respiratory/skin sensitization	Classification not possible; Skin sensitization: Classification not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	With no sufficient information about causing sensitivity.
5 Germ cell mutagenicity	Classification not possible	-	-	-	Although there are positive results from in vitro microbial mutagenicity tests, the in vitro mutagenicity tests in mammalian cells are negative and also there are no data from in vivo tests in mammals. So it was decided that the substance "could not be classified". It is considered that the strong mutagenicity is peculiar to microorganisms and plants. (DFGOT vol.20 (2003)) Category 2, which was based on the in vivo results in muscids, was also suggested in some comments from the experts, but in the end it was concluded that the substance could not be classified.
6 Carcinogenicity	Not classified	-	-	-	Since it was judged with A4 by ACGIH, it was set as "Outside of Category."
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 1 (circulatory system)	Health hazard	Danger	Cause damage to organs (circulatory system)	Since there is a large number of examples about hypotension (be used as therapeutic agents) and suspected the side effects to its respiratory organs, digestive organ, etc. So it was classified into "Category 1."
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (circulatory system, liver)	Health hazard	Danger	Causes damage to organs (circulatory system, liver) through prolonged or repeated	Since increased sensitivity was seen in some patients when it was used for treatment for high blood pressure for humans over a long-term (ACGIH (2001)), and the effects on the liver was seen with the given dose below 10mg/kg-day in an animal experiments, it was classified in "Category 1."
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 96-hour LC50=0.7mg/L of fishes (Bluegill) (HSDB, 2004).
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 (direct measurement (HPLC): 1% (existing chemical safety inspections data)), though supposed less bioaccumulative (log Kow<=0.3 (existing chemical safety inspections data)).