

GHS Classification

ID608

Nicotine

CAS 54-11-5

Date Classified: Jul. 24, 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	-	-	-	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: >93degC
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: 240degC (ICSC (J), 1997)
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 no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 6.1

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 1	Skull and crossbones	Danger	Fatal if swallowed	There was description that lethal dose by intakes in humans is estimated as 50 to 60 mg (ACGIH (7th, 2001)) or 40 to 60 mg (HSDB (2005), DHP (13th, 2002), and SITTIG (4th, 2002)). The human oral fatal dose was judged to be less than 1mg/kg, it was set as Category 1.
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	Rabbit LD50 value: 50mg/kg and rat LD50 value:140mg/kg (all are PATTY, 4th, 1994). Based on the lower rabbit LD50 value, it was set as Category 1.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Classification not possible	-	-	-	Classification not possible due to lack of data
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	Insufficient data available.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Not classified	-	-	-	The substance was regarded as outside the categories. Because there are no in vivo mutagenicity test data other than a negative report from a dominant lethal test in mice in PATTY (4th, 1994).
6 Carcinogenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the description of eratogenicity was not observed but delay of growth and cerebral rudimentary were observed in the embryo with the dose of decreasing weight gains of mother in the subcutaneous administration study or oral administration study during gestational period in the rats, mice, and rabbits (ACGIH (7th, 2001), PATTY (4th, 1994)) and that most newborns died because secretion of breast milk decreased remarkably in the rat administration study during pregnancy and lactation period (PATTY (4th, 1994)), it was classified into Category 2.

8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system, respiratory, heart cardiovascular system, gastrointestinal tract); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (nervous system, respiratory, heart cardiovascular system, gastrointestinal tract); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	According to the description that in an acute intoxication of humans nausea, vomiting, stomachache, diarrhea, the first stage tachypnea, vasoconstriction, elevated BP and nervous agitations appear, and later hypotension, bradycardia, respiratory depression, headach, drowsiness, dizziness, exhaustion of muscles, the action of central nerve systems, irregular rhythms of heart, confusion, etc. are observed (ACGIH (7th, 2001), PATTY (4th, 1994), and HSDB (2005)). So it was set as Category 1 (nervous systems, respiratory systems, cardiovascular systems, elementary canal). Moreover, since there is a statement of respiratory irritation (HSDB (2005)), it was set as Category 3 (respiratory irritant).
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)	Classification not possible	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data