

GHS Classification

ID1349

2-Naphthol

CAS 135-19-3

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	-	-	-	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	-	-	-	Classification not possible due to lack of data, though "Flammable" (ICSC(J), 1995)
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	Not classified	-	-	-	There is a description that the flash point is 153 degC (CLOSED CUP) in HSDB (2006), and it was thought that there was no spontaneous combustibility even if it contacted the normal temperature air. Thus, it was defined as "out of Category".
11 Self-heating substances and mixtures	Not classified	-	-	-	It was widely used as an industrial materials, and it was considered that there is no self-febrility (dyes, preservative, etc.), and they were carried out the outside of Category.
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	-	-	-	Organic compounds containing oxygen and the oxygen is chemically bonded only to carbon and hydrogen (but not to other elements).
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	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	Category 4 based on SPECIES: Rat(female and male); ENDPOINT: LD50; VALUE: 1320mg/kg; REFERENCE SOURCE: SIDS (2006), IUCLID (2000)
1 Acute toxicity (dermal)	Not classified	-	-	-	It was as the outside of Category from LD50 value >10000mg/kg (SIDS, 2006) of the dermal administration test using rats and rabbits.
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)	Category 4	Exclamation mark	Warning	Harmful if inhaled	It was set as Category 4 based on LC50 value of an inhalation administration test using female male rats, that is 2.2mg/L/4H (2200mg/m3/4H) (SIDS, 2006; IUCLID, 2000).
2 Skin corrosion / irritation	Not classified	-	-	-	It carried out the outside of Category from description which does not stimulate a rabbit eye (SIDS, 2006; IUCLID, 2000).
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	From description which causes serious stimulation to the human eye (ICSC(J), 2005) and the rabbit eye (SIDS, 2006; IUCLID, 2000), it is set as Category 2A.
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 available. Skin sensitization: from the description that sensitization of the skin is carried out (SIDS, 2006; IUCLID, 2000; ICSC(J), 2005) and sensitization of the guinea pig skin is carried out (SIDS, 2006; IUCLID, 2000), Skin sensitization is considered as Category 1.
5 Germ cell mutagenicity	Not classified	-	-	-	There is the negativity by the in vivo mutagenicity test (micronucleus test which uses mouse bone marrow cells) (SIDS, 2006), and it is classified as the out of the Category. In addition, the reverse mutation test (Ames test) using bacteria is also negative (SIDS, 2006; IUCLID, 2000).
6 Carcinogenicity	Classification not possible	-	-	-	There is only a knowledge that the carcinogenesis promoter activity in the female mouse skin was not acknowledged by the limited study(SIDS, 2006; IUCLID, 2000), and data is insufficient. So it cannot be classified.
7 Toxic to reproduction	Not classified	-	-	-	Based on the statement that there was no effect on reproduction toxicity and malformation in single-generation studies using both male and female rats (SIDS, 2006), it was set as "out of Category".

8	Specific target organs/systemic toxicity following single exposure	Category 2 (kidneys, blood system)	Health hazard	Warning	May cause damage to organs (kidneys, blood system)	It was considered as Category 2 (kidney, blood) based on the description of nephropathy, hemolytic anemia (HSDB, 2006) by human exposure, and hematuria (RTECS, 2006) by inhalation of human lowest toxic dose (0.5mg/m3).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (kidneys); Category 2 (blood)	Health hazard	Danger	Causes damage to organs (kidneys) through prolonged or repeated exposure; May cause damage to organs (blood) through prolonged	It was classified into Category 1 (kidney) and Category 2 (blood) based on description which affected change of a renal function in humans (SIDS, 2006; ICSC(J), 2005), and blood in humans (ICSC (J), 2005). Although there is a description "an eye may be affected and lens opacities may be occurred" (ICSC (J) and (2005)), this was based on old data, and since the affect on an eye was not described (SIDS (2006) of Priority 1 document), it was not included in a classification.
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 96-hour LC50=2500microg/L of Crustacea (Brown shrimp) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since rapidly degrading (BOD: 68.4% (existing chemical safety inspections data)), and less bio-accumulative (log Kow=2.7 (PHYSPROP Database, 2005)).