

GHS Classification

ID896

p-benzoquinone

CAS 106-51-4

Date Classified: Jun. 20, 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	Not classified	-	-	-	UNRTDG Class: 6.1
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	-	-	-	Flash point: 560degC (ICSC (J), 1997)
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to liquid 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	-	-	-	Organic compounds containing oxygen (but not chlorine and fluorine) and the oxygen is chemically bonded only to carbon and hydrogen (but not to other elements).
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 3	Skull and crossbones	Danger	Toxic if swallowed	Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: :130mg/kg; REFERENCE SOURCE: ACGIH 7th (2001), IARC 15 (1997)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
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	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	It was set as Category 2 from description that discoloration (discoloration), strong stimulativeness, and erythema were acknowledged by skin exposure as effect of the humans (ACGIH (7th, 2001), PATTY (4th, 1994), and IARC 71 (1999)).
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	According to the description that the ocular damage was rare in human and it was moderate if any (ACGIH (7th, 2001)), and it was possible that it was Out Of Category. However, there was no statement which negates irritational property clearly. Therefore we could not classify it for the insufficiency of the data.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Not classified	-	-	-	Since there is a negative result (IARC 71, 1999) by the dominant lethal test using the mouse which is an in vivo multigeneration mutagenicity test using a germ cell, it considered as the outside of Category.
6 Carcinogenicity	Not classified	-	-	-	Since it was classified into the group 3 in IARC 71 (1999), it was considered as the outside of Category.
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 2 (central nervous system); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Warning	May cause damage to organs (central nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	From description in HSDB (2005) that the tremor and the spasm were seen in the rat oral administration examination, the central nervous system was judged as the target organ, and it was set as Category 2. Moreover, since that there was description in ICSC (J) (2001), HSFS (2004), and SITTIG (4th, 2002) that an airway is stimulated, epistaxis, hoarseness, cough, sputum, chest tightnesses, etc. are caused, and it was judged that there was respiratory irritant, and it was set as Category 3.
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 96-hour LC50=0.045mg/L of fishes (Fathead minnows) (ECETOC TR 91 and 2003).
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, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=0.2(PHYSPROP Database, 2005)).