

GHS Classification

ID196

Pentachloronitrobenzene

CAS 82-68-8

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	Classification not possible	-	-	-	No data available
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	Type G	-	-	-	UNRTDG Non-hazardous Substance
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Not ignite spontaneously on coming into contact with air at normal temperatures
11 Self-heating substances and mixtures	Classification not possible	-	-	-	No data 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	Classification not possible	-	-	-	No data available
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not applicable	-	-	-	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	The calculation formula was applied based on rat LD50 value: male 1710mg/kg, female 1650mg/kg (EHC 41 (1984)), 2140mg/kg (ACGIH (7th, 2001)), and > 5000mg/kg (JMPR, 1995). The acquired toxic value turned into a value lower than any value used for calculation. Therefore 1650mg/kg which is the lowest values used for calculation was adapted, it was set as category 4.
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on rabbit LD50: >5000mg/kg (JMPR, 1996), 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 is a possibility of being in category 4, category 5, or outside of category from the data of rat LC50 (4-hour exposure): >1.7mg/L. But it cannot be classified since the category can not to be specified.
2 Skin corrosion / irritation	Not classified	-	-	-	Based on the descriptions that there was no irritation observed in the rabbit skin irritation test (JMPR and (1996), CERI Hazard Data (2002)) and that there was no primary irritation in the PCNB 75% hydrated agent skin application test on 50 persons (ACGIH and (7th 2001), JMPR (1969)), it was classified as out of Category.
3 Serious eye damage / eye irritation	Not classified	-	-	-	The very slight conjunctiva redness, edema were acknowledged transiently in rabbit eye irritation test. But diagnosis criteria of irritation in guidelines was not met. So it was considered as the outside of Category.
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	Respirator: No data Skin : Classified as Category 1 because of the description that the skin sensitization test (modified Buehler test) using guinea pigs shows positive (JMPR, 1996), CERI Hazard Data, 2002), and because the skin patch test applying 75% PCNB wettable powder found positive in 13 out of 50 persons (ACGIH 7th, 2001, JMPR 1996).
5 Germ cell mutagenicity	Not classified	-	-	-	The substance was regarded as outside the categories. Because there are negative results from dominant lethal tests in mice, which are in vivo multi-generation mutagenicity tests using germ cells, and there are no results of mutagenicity tests in other in vivo test systems.
6 Carcinogenicity	Not classified	-	-	-	It classified into group 3 (IARC Suppl.7 (1987)) according to IARC and classified into A4 (ACGIH 7th, 2001) according to ACGIH. So it was set as the outside of Category.

7	Toxic to reproduction	Not classified	-	-	-	Since there is the description of no effects on fertility property in the dose occurring general toxicity to parent animals in two generation rat reproduction study (CERI Hazard Data (2002)), and there is the description of no teratogenicity and no effect to embryo in the dose occurring the death of or general toxicity to maternal animals in rat mouse and rabbit fetal period of organogenesis administration test (ACGIH (7th, 2001), NTP TR 325 (1987), PATTY (4th, 1994), CERI Hazard Data (2002)), it is considered as on the outside of Category.
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	Insufficient data available.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver)	Health hazard	Warning	May cause damage to organs (liver) through prolonged or repeated exposure	Due to the descriptions that in the study of feeding administration study in rat for two years, in a 400 ppm group (about 20mg/kg/day), centrilobular hepatocyte enlargement, single cell necrosis of hepatocyte, and adipose degeneration were observed and that in feeding administration study in dog for two years, mild atrophy of hepatocytes, periportal enlargement, leucocyte infiltration, and reversible cholestatic hepatitis were affected within the guidance value of Category 2 (CERI hazard data (2002)), it was classified into Category 2 (liver).
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=0.01microg/L of Crustacea (Mysid shrimp) (MOE Risk Assessment No.1, 2002).
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 is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative (log Kow=4.64 (PHYSPROP Database, 2005)).