

## GHS Classification

**ID67**

**Pentachlorophenol**

**CAS 87-86-5**

Date Classified: Mar. 23, 2006 (Environmental Hazards: Feb. 10, 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	-	-	-	Containing no atom groups with explosive properties
2 Flammable gases	Not applicable	-	-	-	Classified as "solid" according to GHS definition
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Classified as "solid" according to GHS definition
5 Gases under pressure	Not applicable	-	-	-	Classified as "solid" according to GHS definition
6 Flammable liquids	Not applicable	-	-	-	Classified as "solid" according to GHS definition
7 Flammable solids	Not classified	-	-	-	Non-flammable (ICSC.2003)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Containing no atom groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	-	-	-	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	-	-	-	Non-combustible (ICSC.2003)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (ICSC.2003)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13 Oxidizing liquids	Not applicable	-	-	-	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not applicable	-	-	-	Organic compounds containing oxygen and chlorine (but not fluorine), with the oxygen and chlorine bound to carbon and hydrogen, respectively (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 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the LD50 value of 110 mg/kg calculated from the testing data of rat LD50 (oral route) of 27mg/kg (IARC 53, 1991), 175mg/kg (IARC 53, 1991), 80mg/kg (ATSDR, 2001), 120mg/kg (ATSDR, 2001), 50mg/kg (ATSDR, 2001), 180mg/kg (ATSDR, 2001), 220mg/kg (ATSDR, 2001), 230mg/kg (ATSDR, 2001), 80mg/kg (ATSDR, 2001), 120mg/kg (ATSDR, 2001), 150mg/kg (ACGIH 7th, 2001), 200mg/kg (ACGIH 7th, 2001), 150mg/kg (EHC 71, 1987), 135mg/kg (EHC 71, 1987), 205mg/kg (EHC 71, 1987), 78mg/kg (EHC 71, 1987), 65mg/kg (EHC 71, 1987), 27mg/kg (EHC 71, 1987), 83mg/kg (EHC 71, 1987), 146mg/kg (EHC 71, 1987) and 175mg/kg (EHC 71, 1987).
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	Based on the LD50 value of 40mg/kg calculated from the testing data of rabbit LD50 (dermal route) of 60mg/kg (PATTY 4th, 1999), 130mg/kg (PATTY 4th, 1999) and 40mg/kg (PATTY 4th, 1999).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	Insufficient data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the descriptions in CERH Hazard Assessment 2000-32 (2001), NTP TR483 (1999), ATSDR (2001), ACGIH (7th, 2001), EHC 71 (1987) and PATTY (4th, 1999), suggesting its apparent irritability of an unknown degree, and due to the fact that the substance is classified as "Xi (irritant)" by EU Risk Phrase.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes severe eye irritation	Based on the descriptions in CERH Hazard Assessment 2000-32 (2001), NTP TR483 (1999), ATSDR (2001), EHC 71 (1987), PATTY (4th, 1999) and ACGIH (7th, 2001): "Dusts are particularly irritating to the eyes and nose at concentrations greater than 1 mg/m <sup>3</sup> ", suggesting its apparent irritability of an unknown degree, and due to the fact that the substance is classified as "Xi (irritant)" by EU Risk Phrase, although the substance should be placed in Category 2A from the viewpoint of safety.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	-	-	-	Respiratory sensitization: No data available Skin sensitization: Insufficient data available
5 Germ cell mutagenicity	Not classified	-	-	-	Based on the negative data on heritable mutagenicity tests (dominant lethal tests) and in somatic cell mutagenicity tests in vivo (micronucleus and mouse spot tests) and the absence of data on germ cell mutagenicity tests in vivo, described in CERH Hazard Data 2000-32 (2001), IARC 53 (1991), NTP DB (Access on September 2005), EHC 71 (1987), ATSDR (2001), NTP TR-349 (1989) and DFGOTvol.3 (1992).
6 Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer	Due to the fact that the substance is classified as Category A3 by ACGIH (2001), Group 2B by IARC (1991) and Category B2 by EPA (1993).
7 Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the descriptions from CERH Hazard Data 2000-32 (2001), IARC 53 (1991) and ATSDR (2001) regarding the evidence of foetal lethality etc. at dosing levels not toxic to dams and the following evidence not accompanied by descriptions of toxicity to dams: decreased conception rates in rat two-generation reproduction tests, decreased second-mating/birth rates in mink reproductive toxicity tests, changes in the sex ratio of newborns in rat reproductive toxicity tests and malformation of the skeleton and soft tissues in rat teratogenicity tests.

8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system, heart) Category 3 (respiratory tract irritation)	Health hazard	Danger	Causes damage to organs (central nervous system, heart), may cause irritation of respiratory organs	Based on the human evidence including "ataxia, fatigue, headache, dizziness, disorientation, anorexia, nausea, vomiting, dyspnea, high fever, tachycardia, debility, fever and perspiration" (EHC 71, 1987), "conjunctivitis, corneal opacity, corneal anesthesia, slight mydriasis, tachycardia, tachypnea, airway irritation, hypertrophy of the liver, metabolic acidosis" (ACGIH, 7th, 2001), "excessive inhalation causes muscular relaxation and circulatory debility and may cause death" (MOE Risk Assessment Vol. 1, 2002) and "cardiopathy and cardiac failure" (ICSC (J) , 2003).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (blood system, nervous system, respiratory organs, heart, liver, kidneys)	Health hazard	Danger	Causes damage to organs (blood systems, nervous systems, respiratory organs, heart, liver, kidneys) through prolonged or repeated exposure	Based on the human evidence including "aplastic anemia" (MOE Risk Assessment Vol. 1, 2002), "skin/nasal mucous membrane/airway irritation, chloracne, depression, headache, porphyria cutanea tarda, changes in hepatic/renal functions, insomnia, dizziness" (EHC 71, 1987) and "endogastritis, pulmonary congestion, brain edema, cardiac dilatation, degeneration of centrilobular degeneration in the liver, mild renal tubule degeneration" (Patty 4th, 1999) and the evidence from animal studies including "brown pigmentation of the liver and kidneys" (MOE Risk Assessment Vol. 1, 2002). The effects on the liver/kidneys and on the blood systems of experimental animals were observed at dosing levels within the guidance value ranges for Category 1 and Category 2, respectively.
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 hours LC50=15-30microg/L of the fish (Zebrafish) (MOE Risk Assessment vol. 1, 2002).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Although acute toxicity is Category 1 and bio-accumulation is low (BCF=224(Existing Chemical Safety Inspections Data, )), since there was no rapidly degrading (the decomposition by BOD: 1%(Existing Chemical Safety Inspections Data)), it was classified into Category 1.