

## GHS Classification

**ID130**

**3,3'-Dichloro-4,4'-diaminodiphenylmethane**

**CAS 101-14-4**

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	Classification not possible	-	-	-	No data available
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	Classification not possible	-	-	-	No data available
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to liquid substances are not available - melting point: 110degC (ICSC,1999), test temperature: 140degC
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 chlorine (but not oxygen and fluorine), with the chlorine bound 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	Based on the testing data of rat LD50 (oral route) of 1,140mg/kg (MOE Risk Assessment Vol.3, 2004).
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on the testing data of rabbit LD50 (dermal route) of >5,000mg/kg (CERI Hazard Data 2000-12, 2001).
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	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin	Based on the evidence of "extremely mild irritation" from guinea pig skin irritation tests (CERI-NITE Hazard Assessment No.33, 2005).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on the evidence of "mild irritation" from rabbit eye irritation tests (CERI-NITE Hazard Assessment No.33, 2005).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	-	-	-	Respiratory sensitization: No data available Skin sensitization: Insufficient data available to deny sensitization, although the substance was reported negative in guinea pig skin sensitization tests (CERI-NITE Hazard Assessment No.33, 2005).
5 Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects	Based on the absence of data on heritable mutagenicity tests and germ cell mutagenicity and genotoxicity tests in vivo and positive data on somatic cell mutagenicity tests in vivo (micronucleus tests), described in CERI-NITE Hazard Assessment No.33 (2005), IARC 57 (1993) and NTP DB (Access on Dec., 2005).
6 Carcinogenicity	Category 1B	Health hazard	Danger	May cause cancer	Due to the fact that the substance is classified as Category R by NTP (2005), Category A2 by ACGIH (2001) and Group 2A by IARC (1993).
7 Toxic to reproduction	Classification not possible	-	-	-	No data available
8 Specific target organs/systemic toxicity following single exposure	Category 1 (blood system)	Health hazard	Danger	Causes damage to organs (blood systems)	Based on the evidence from animal studies including "an increase in blood methemoglobin concentration, weakness, vomiting, achromasia, cyanosis" (MOE Risk Assessment Vol. 3, 2004). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood system, respiratory organs, liver)	Health hazard	Warning	May cause damage to organs (blood systems, respiratory organs, liver) through prolonged or repeated exposure	Based on the evidence from animal studies including "mild methemoglobinemia, macrocytic anemia and anemia probably caused by excessive destruction of red blood cells, adenomatosis in the bronchiolar-alveolar junction, hepatocyte hypertrophy, fatty degeneration in the liver, hepatocyte necrosis, bile duct proliferation and fibroplasia" (MOE Risk Assessment Vol. 3, 2004). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2.
10 Aspiration hazard	Classification not possible	-	-	-	No data available

## Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
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11	Hazardous to the aquatic environment (acute)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 48 hours EC50=0.25mg/L of the crustacea (Daphnia magna) (CERI/NITE Hazard Assessment Report (2005) and others.).
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=398(Existing Chemical Safety Inspections Data. )), since there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), it was classified into Category 1.