

## GHS Classification

**ID405**

**1,3-Dichloro-2-propanol**

**CAS 96-23-1**

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	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6 Flammable liquids	Category 4	—	Warning	Combustible liquid	The flash point is 74degC (open cup flash test) (NFPA (13th, 2002)), which is classified into Category 4.
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	—	—	—	Classified into Division 6.1 (UN#2750) (UN Recommendations on the Transport of Dangerous Goods).
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Classification not possible	—	—	—	Test methods applicable to liquid substances are not available
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	—	—	—	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)
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Not classified	—	—	—	Classified into Division 6.1 (UN#2750) (UN Recommendations on the Transport of Dangerous Goods).

## 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 81mg/kg representing the lower of the two testing data of rat LD50 (oral route) of 81mg/kg (MOE Risk Assessment vol. 4 (2005)) and 122mg/kg (CERI Hazard Data 97-10 (1998)).
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	Based on the LD50 value of 500mg/kg representing the lower of the two testing data of rabbit LD50 (dermal route) of 500mg/kg (CERI Hazard Data 97-10 (1998)) and 580mg/kg (MOE Risk Assessment vol. 4 (2005)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	Based on the LC50 (4 hours) value of 32.5ppm, calculated from the testing data of rat LC50 (4-hour inhalation of vapour) of 125mL/m3 (DFGOT vol.1 (1990)), was lower than 90% of the saturated vapour concentration (9,000ppm) under a saturated vapour pressure of 0.9kPa (20degC), the substance was considered as "vapour containing substantially no mist" and was classified based on standard values expressed in ppm.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in the report on rabbit skin irritation tests (CERI Hazard Data 97-10 (1998) and CERI-NITE Hazard Assessment No.201 (2004)): "moderate damage" and "irritation" (though recovery period is not presented). The substance is thus considered a skin irritant (though the results are not those of 4-hour application).
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the description in the report on rabbit eye irritation tests (CERI Hazard Data 97-10 (1998) and CERI-NITE Hazard Assessment No.201 (2004)): "strong irritation," "severe irritation" (though recovery period is not presented). The substance is thus considered irritating to the eye (though the results are not those of 4-hour application).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	Respiratory sensitization: No data available Skin sensitization: No data available
5 Germ cell mutagenicity	Not classified	—	—	—	Based on the absence of data on multi-generation mutagenicity tests and germ cell mutagenicity tests in vivo, and negative data on somatic cell mutagenicity tests in vivo (micronucleus tests), described in MOE Risk Assessment vol. 4 (2005), CERI-NITE Hazard Assessment No.201 (2005) and DFGOT Vol.1 (1991).
6 Carcinogenicity	Classification not possible	—	—	—	Classification not possible based on expert judgment, in the absence of existing classification except EU risk phrase.
7 Toxic to reproduction	Classification not possible	—	—	—	Insufficient data available
8 Specific target organs/systemic toxicity following single exposure	Category 1 (liver)	Health hazard	Danger	Causes damage to organs (liver)	Based on the human evidence: "some cases diagnosed as acute fulminant hepatitis" (CERI-NITE Hazard Assessment No.201 (2004)).

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver, kidneys, blood system) Category 2 (respiratory organs)	Health hazard	Danger Warning	Causes damage to organs through prolonged or repeated exposure (liver, kidneys, blood system) May cause damage to organs through prolonged or repeated	Based on the evidence from animal studies including "histopathological changes in the liver and kidney (multifocal renal tubular degeneration etc.), histopathological changes in the nasal passage (turbinate adhesion, nasal mucosal degeneration, hyperplasia of the respiratory/nasal mucosa), decreased hemoglobin/hematocrit levels, reduced RBC in females, fatty degeneration of hepatocytes" (CERI-NITE Hazard Assessment No.201 (2004)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1 (liver, kidneys, blood system) and Category 2 (respiratory organs).
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)	Not classified	—	—	—	It was classified into Not classified from 96 hours LC50>100mg/L of the fish ( <i>Oryzias Latipest</i> ) (MOE eco-toxicity tests of chemicals, 1996).
11 Hazardous to the aquatic environment (chronic)	Not classified	—	—	—	Since it was not water-insolubility (the water-solubility =99000mg/L (PHYSPROP Database, 2005)), and acute toxicity was low, it was classified into Not classified.