

## GHS Classification

**ID51**

**Carbon disulfide**

**CAS 75-15-0**

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 "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 2	Flame	Danger	Highly flammable liquid and vapour	The flashing point is -30degC (closed cup flash test) and the boiling point is 46degC (ICSC, 2004) which is classified into Category 2. Classified into Class 3 and Category 6.1 (UN#1131) (UN Recommendations on the Transport of Dangerous Goods)
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no atom groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	—	—	—	Not pyrophoric when in contact with air at ordinary temperatures: the flashing point is 90degC (ICSC,2004)
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	—	—	—	Inorganic compounds containing no oxygen and halogen
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Not organic compounds
16 Corrosive to metals	Classification not possible	—	—	—	Test methods applicable to gaseous substances are not available – boiling point: 46degC (ICSC,2004), test temperature: 55degC

## Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 5	—	Warning	May be harmful if swallowed	Based on the testing data of rat LD50 (oral route) of 3,020mg/kg (CICAD 46, 2005).
1 Acute toxicity (dermal)	Classification not possible	—	—	—	No data available
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 3	Skull and crossbones	Danger	Toxic if inhaled	Based on the rat LC50 (4 hours) value of 580ppm, calculated from the testing data of rat LC50 (inhalation of vapour) of 1.8mg/L (4 hours) (RTECS, 2004), was lower than 90% of the saturated vapor concentration (480,000ppm) under a saturated vapour pressure of 48kPa (25degC) (ICSC, 2004), 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	Classification not possible	—	—	—	No data available
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes strong eye irritation	Based on the human epidemiological description in CERI-NITE Hazard Assessment No. 10 (2004) suggesting that the substance causes eye irritation of an unknown degree, 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) – (Skin sensitization) –	(Respiratory sensitization) – (Skin sensitization)	(Respiratory sensitization) – (Skin sensitization) –	Respiratory sensitization: No data available Skin sensitization: No data available
5 Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects	Based on negative data on heritable mutagenicity tests (dominant lethal tests), the absence of data on germ cell mutagenicity and genotoxicity tests in vivo and positive data on somatic cell mutagenicity tests in vivo (chromosome aberration tests), described in CERI-NITE Hazard Assessment No. 10 (2004).
6 Carcinogenicity	Classification not possible	—	—	—	Insufficient data available
7 Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the evidence of effects on offspring at dosing levels not toxic to parent animals, described in CERI-NITE Hazard Assessment No. 10 (2004).
8 Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system) Category 2 (heart) Category 3 (narcotic effects, respiratory tract irritation)	Health hazard and Exclamation mark	Danger Warning	Causes damage to organs (central nervous system); may cause damage to organs (heart, respiratory organs); (Respiratory irritation) may cause respiratory irritation; (Narcotic influence) may cause sleepiness and dizziness	Based on the human evidence including "mental disorders including excitement, emotional instability, delirium, hallucination, delusion and suicidal wishes, cerebropathy associated with cerebral atrophy and mental retardation, narcotic influence and sore throat due to burn injury" (CERI-NITE Hazard Assessment No. 10, 2004) and the evidence from animal studies including "adverse effects on the function and configuration of the heart" (CERI-NITE Hazard Assessment No. 10, 2004). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2.

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (central nervous system, cardiovascular system, kidneys)	Health hazard	Danger	Causes damage to organs (central nervous system, cardiovascular system, kidneys) through prolonged or repeated exposure	Based on the human evidence of "polyneuropathy, cerebral atherosclerosis, cerebral atrophy, local irregular bloodflow in the brain, cortex atrophy, multiple lesions suggestive of small infarctions in the basal ganglia and corona radiata, olivopontocerebellar atrophy, a delay in peripheral nerve conduction and a decrease in action potential, ischemic heart disease, cardiac infarction, intercapillary glomerulosclerosis, diffuse glomerulosclerosis, thickened basement membrane in loop, Bowman's capsule and distal convoluted tubules" (CERI-NITE Hazard Assessment No. 10, 2004) and the evidence from animal studies including "edema, hemorrhage, interstitial proliferation and vascular dilatation in the heart" (CERI-NITE Hazard Assessment No. 10, 2004). The effects on experimental animals were observed within the guidance value ranges for Category 1.
10	Aspiration hazard	Category 2	Health hazard	Warning	May be harmful if swallowed or inhaled	Based on the description in CICAD 46 (2002) and ICSC (J) (2000): "May cause aspiration and chemical pneumonia if swallowed."

### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 48 hours LC50=2100microg/L of the crustacea (Daphnia magna) (MOE Risk Assessment vol. 2 (2003) and others).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Although acute toxicity was Category 2 and the bio-accumulation potential was low (BCP=00(Existing Chemical Safety Inspections Data)); since there was no rapidly degrading (the decomposition by direct measuring (GC): 2%(Existing Chemical Safety Inspections Data)), it was classified into Category 2.