

GHS Classification

ID401

1,2-Dichloro-3-nitrobenzene

CAS 3209-22-1

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	Classification not possible	—	—	—	Classification not possible due to lack of data, though the substance contains nitro groups, with its oxygen budget calculated at -96
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	—	—	—	Classification not possible due to lack of data, though classified as "flammable" by ICSC (1999)
8 Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though the substance contains nitro groups
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: 61degC (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	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen bound to elements other than carbon and hydrogen
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 LD50 value of 381mg/kg representing the lower of the two testing data of rat LD50 (oral route) of 381mg/kg and 512mg/kg (the Ministry of Health, Labour and Welfare (1994)).
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 "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
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in the report on rabbit skin irritation tests (HSDB (2005)): "The substance induced slight delipidation of the skin surface, with sloughing in days 7-10. At 24 hours, severe erythema and edema were evident. These irritant reactions gradually subsided and there was no injury in depth. The substance is thus considered to possess a severe skin irritation potential" (though the results are not those of 4-hour
3 Serious eye damage / eye irritation	Classification not possible	—	—	—	No data available
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	Classification not possible	—	—	—	Based on the absence of data on multi-generation/germ cell/somatic cell in vivo mutagenicity/genotoxicity tests and no positive data on mutagenicity tests in vitro (several indices), described in the Ministry of Health, Labour and Welfare (1994) and SIDS (2005).
6 Carcinogenicity	Classification not possible	—	—	—	No data available
7 Toxic to reproduction	Not classified	—	—	—	Based on no evidence of adverse effects on reproduction and development at doses producing parental toxicity observed in combined studies, described in SIDS (2005) and CERL Hazard Data 2000-42 (2001).
8 Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system)	Based on the evidence from animal studies: "decreased locomotor activity, blepharoptosis, staggering, relaxation of the general muscles, skin achromasia and deep respiration were observed in a dose-dependent manner. Some deaths were observed 1-2 days after administration as the responses increased in severity and respiration weakened" (the Ministry of Health, Labour and Welfare (1994)). 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 (liver, kidneys, blood)	Health hazard	Warning	Causes damage to organs through prolonged or repeated exposure (liver, kidneys, blood)	Based on the evidence from animal studies: "hepatocyte swelling, hyaline droplet/vacuolation of the renal tubular epithelium and increased hemosiderin deposition in the spleen were observed. Increases in urinary protein/serum sodium/protein/total cholesterol levels and decreased urea nitrogen levels were noted. In addition, decreased hemoglobin/ hematocrit values and reticulocytosis were detected, suggesting hemolytic anemia" (the Ministry of Health, Labour and Welfare (1994)). 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
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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 EC50=1.6mg/L of the crustacea (Daphnia magna) (CERI Hazard Data, 2002).
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 (BCF=83(Existing Chemical Safety Inspections Data)), since there was no rapidly degrading (the decomposition by BOD: 4%(Existing Chemical Safety Inspections Data)), it was classified into Category 2.