

GHS Classification

ID388

CAS 94-74-6

Physical Hazards

(4-chloro-2-methylphenoxy)acetic acid

Date Classified: Dec. 18, 2006 (Environmental Hazards: Mar. 31, 2006)

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 "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 (2004))
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical 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-flammable (ICSC (2004))
11 Self-heating substances and mixtures	Not classified	—	—	—	Non-flammable (ICSC (2004))
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 and oxygen (but not fluorine), with the chlorine and oxygen 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	Not classified	—	—	—	Assigned to Division 6.1 (UN#3345 Phenoxyacetic Acid Derivative Pesticide, solid, toxic (ICSC (2004)) (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 4	Exclamation mark	Warning	Harmful if swallowed	Based on the rat LD50 (oral route) value of 823mg/kg (Agricultural Chemical Registration Data (1989)).
1 Acute toxicity (dermal)	Classification not possible	—	—	—	Classification cannot be determined, though the available rat dermal study reported the LD50 value of >1,190mg/kg.
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a solid according to the GHS criteria 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)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Based on the rat LC50 (inhalation route) value of 0.3mg/L (4 hours) (Agricultural Chemical Registration Data (1987)).
2 Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the descriptions in the reports on rabbit skin irritation tests: "Mild" (exposure duration unknown) (RTECS (2006)), "irritating" (according to the Draize method with rabbits) (IUCLID (2000)). Also based on the description in ICSC (J) (1994): "The present substance irritates the eye, skin and respiratory tract." The substance is thus considered a mild skin irritant.
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the description in the report on rabbit eye irritation tests employing the Draize method (IUCLID (2000)): "Irritating." Also based on the description in ICSC (J) (1994): "The present substance irritates the eye, skin and respiratory tract." Given the skin irritancy of the substance falls into Category 3, the substance is considered to possess a mild eye irritation potential and classified into Category 2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Not classified	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	Respiratory sensitization: No data available Skin sensitization: No skin sensitizing potential was found in guinea-pig skin sensitization studies (Agricultural Chemical Registration Data (2005)).
5 Germ cell mutagenicity	Classification not possible	—	—	—	Classification not possible since the only available information is from a in vivo study with ethyl ester (negative in in vivo micronucleus tests on mouse bone marrow cells) (Agricultural Chemical Registration Data (1989)), though some in vitro tests gave negative results.
6 Carcinogenicity	Not classified	—	—	—	There was no evidence of treatment-related incidence of tumor formation observed in 2-year (rats) and 18-month (mice) carcinogenicity studies (Agricultural Chemical Registration Data (1985, 1987)).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of increased pup mortality, a decrease in viable fetuses, and delayed ossification at doses causing reduced parental body weight gains observed in rat and rabbit teratogenicity studies (Agricultural Chemical Registration Data (1988, 1993)).

8	Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	Based on the evidence from animal studies including reduced locomotor activity, abnormal gait and paralytic gait (Agricultural Chemical Registration Data (1988, 1989)). These effects were observed at dosing levels within the guidance value ranges for Category 2.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood system, kidneys, skin)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (blood system, kidneys, skin)	Based on the evidence from animal studies including "dehairing," "low body weight," "reduced food consumption," "increased urinary output," "decreased ketone bodies in the urine," "decreased specific gravity of urine," and "pale urine." Hematobiological examination revealed "increased MCV," "decreased platelet count," "decreased MCHC/Hb/RBC," "decreased bilirubin/Cl/protein/albumin/globulin," and "increased phosphorus/neutral fat/creatinine/BUN." Pathological examination showed "increased incidence of decreased eosinophilic corpuscles in proximal renal tubular epithelium," "decreased incidence of calcinosis," and "increased incidence of hair follicle atrophy" (Agricultural Chemical Registration Data (1993)). These effects 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
11 Hazardous to the aquatic environment (acute)	Category 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 48 hours EC50=82.6mg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2004).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Although acute toxicity was Category 3 and the bio-accumulation potential was low (BCF<13(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 3.