GHS Classification

ID392 alpha-cyano-3-phenoxybenzyl N-(2-chloro-alpha,alpha,alpha-trifluoro-p-tolyl)-D-valinate

CAS 102851-06-9 Date Classified: Dec. 18, 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	Classification not possible	—	—	—	Classification not possible due to lack of data. The reagent (purity: 98%) has flash point of 90degC according to some reports, that is classifiable as 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	Classification not possible	—	—	—	Classification not possible due to lack of data
10	Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11	Self-heating substances and mixtures	Classification not possible	—	—	—	Test method applicable to liquid substances are not available (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	—	—	—	Organic compounds containing chlorine, fluorine and oxygen bound to carbon and hydrogen (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	Classification not possible	—	—	—	Classification not possible due to lack of data

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 rat LD50 (oral route) value of 261mg/kg (Agricultural Chemical Registration Data (1988)).
1	Acute toxicity (dermal)	Not classified	—	—	—	Based on the rat LD50 (dermal route) value of >2,000mg/kg, together with the absence of mortality (Agricultural Chemical Registration Data (1988)).
1	Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a liquid according to the GHS criteria and inhalation of its gas is not expected.
1	Acute toxicity (inhalation:	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 0.44mg/L (Agricultural Chemical Registration Data (1988)).
2	Skin corrosion / irritation	Not classified	—	—	—	Based on the evidence of slight irritation with a Draize score of <=1, which resolved within 48 hours, observed in rabbit skin irritation tests (Agricultural Chemical Registration Data (1988)).
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 in in vivo assays, though negative results were obtained in in vitro assays (reverse mutation tests and chromosome aberration tests) (Agricultural Chemical Registration Data (1988)).
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 (1988)).
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of increased incidence of skeletal/visceral anomalies in the pups at doses causing reduced parental body weights in rabbit teratogenicity studies (Agricultural Chemical Registration Data (1988)).
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 including "salivation," "sedation," "crouching position," "ataxia," "diarrhea," and "collapse" (Agricultural Chemical Registration Data (1988)). These effects 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)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (blood system)	Based on the evidence from animal studies including "decreased RBC/hemoglobin/hematocrit" (Agricultural Chemical Registration Data (1988)). 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 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 48 hours EC50=0.0023mg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2005).
11	Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Since the acute toxicity was Category 1 and it had no rapidly degrading (BIOWIN), and bio-accumulation was unknown, it was classified into Category 1.