GHS Classification

ID779 2,2-Dichloropropionic acid

CAS 75-79-0 Date Classified: Mar. 15, 2007 (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	-	-	-	There are no chemical groups associated with explosive properties present in the molecules. (As a sodium salt, the substance was authorized for the agricultural chemicals registration (herbicide) in the country and examined in this GHS classification. The sodium salt has the CAS number: 127-20-8, the molecular formula: C3H3Cl2NaO2, molecular weight: 164.95, and the properties of a free body: liquid.)
2	Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3	Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4	Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5	Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6	Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7	Flammable solids	Classification not possible	-	-	-	Classification not possible due to lack of experimental data, though "Flammable solid" (BGIA GESTIS-database on hazardous substances, Accessed in 2006)
8	Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9	Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10	Pyrophoric solids	Not classified	-	-	-	Non-pyrophoric when in contact with air at a room temperature and used as agricultural chemicals.
11	Self-heating substances and mixtures	Not classified	-	-	-	Since there is the description that "in the usual state, it is stability" in agricultural-chemicals applications for registration data (1999), and that "are stabilized at less than 150 degC"in PM (13th, 2003), it was judged as the outside of Category.
12	Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (the water solubility is obtained)
13	Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14	Oxidizing solids	Not applicable	-	-	-	Organic compounds containing chlorine and the chlorine is chemically bonded only to carbon (but not to other elements).
15	Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -0-0- structure
16	Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available. Corrosive to Iron (Merck, 13th, 2001)

Health Hazards

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Not classified	-	-	-	From male and female LD50 value of the oral administration study using rats: >5000mg/kg (Agricultural Chemical Registration Data (1999)), it was set as the outside of Category. [Note] The domestic pesticide registration (herbicide) is authorized as sodium salts of this product. In this GHS classifications, all were investigated as sodium salts. For sodium salts, CAS number is 127-20-8, the formula are C3H3Cl2NaO2, and the molecular weights is 164.95. In addition, the quality of the Free body is a liquid.
1	Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	From LD50 value of the dermal administration test using a rat for male and females: >2000mg/kg (Agricultural Chemical Registration Data (1999)), it was set as Category 5.
1	Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1	Acute toxicity (inhalation: dust, mist)	Category 4	Exclamation mark	Warning	Harmful if inhaled	Since rat LC50 value of the inhalation exposure test (dust mists) is indicated male and females: >4.15mg/L/4H (100% purity equivalent: >1.25mg/L/4H))(Agricultural Chemical Registration Data (1999)), it was set as Category 4.
2	Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Although reversible stimulus (erythema and dropsy with Draize score 4) was observed in the skin irritation test on rabbits, these symptoms disappeared in 48 hours (Agricultural Chemical Registration Data (1999)). Therefore, it was classified as Category 3.
3	Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Although in the eye irritation tests using a rabbit the reversible irritation (mild corneal cloudings, conjunctival redness, and swelling) was observed, the symptom disappeared in 72 hours (Agricultural Chemical Registration Data (in 1999). So it was set as 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 Skin sensitization: Since it was negative for the guinea pig in Maximization method (Source: Agricultural Chemical Registration Data (1999)), we classified it to be out of Category.

5	Germ cell mutagenicity	Classification not possible	–	–	–	Since the in vivo mutagenicity test has not been carried out, we presupposed that we could not classify it since data was insufficient. In addition, it gave negative for the in vitro mutagenicity test (reverse mutation test, chromosomal aberration test) (Agricultural Chemical Registration Data (1999)).
6	Carcinogenicity	Classification not possible	–	–	–	No data available
7	Toxic to reproduction	Classification not possible	–	–	–	It cannot be classified due to insufficient data since in the teratogenicity study using rats and rabbit, although neither of teratogenicity was indicated (Agricultural Chemical Registration Data (1999)), the evaluate to fertility property was not made.
8	Specific target organs/systemic toxicity following single exposure	Not classified	–	–	–	In the rats oral acute toxicity studies (0, 2500, 5000mg/kg) (Agricultural Chemical Registration Data (1999)), deaths was not seen and the symptom which should be mentioned specially was not acknowledged, so it is classified as the out of the Category.
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	–	–	–	Since the maximal no-effect dose is 1000 ppm (70 to 80 mg/kg/day) in the subacute toxicity study for three months of a rat (Agricultural Chemical Registration Data (1999)), and the observationg at the highest dose of 5000 ppm (350 to 400 mg/kg/day) was that the particular abnormality was not seen in histopathological examination except for the slight inhibition of increase in weight and increase in kidney weight of a female rat, it was classified the outside of Category.
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 carried out the outside of Category from 48-hour EC50>=200mg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data).
11	Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Since not water-insoluble (aqueous solubility =5.02*105mg/L(PHYSPROP Database, 2005)) and acute toxicity is low.