

GHS Classification

ID1356

Chlordimeform

CAS 6164-98-3

Date Classified: Feb. 20, 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.
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	-	-	-	No data available
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	Classification not possible	-	-	-	Test methods applicable to solid (melting point <= 140degC) substances are not available.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	The chemical structure of the substance does not contain metals or metalloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
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 -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	No data available

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 = 192mg/kg calculated by the oral LD50 data : 250, 340, 123, 301, 178, 265 and 460mg/kg (EHC199 (1998)), 150, 220 and 170mg/kg (JMPR206(1972)), the substance was classified as Category 3.
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 from the value (LD50 = 263mg/kg) calculated based on rat dermal LD50 = 640, 337, 263mg/kg (EHC199 (1998)).
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	It was set as Category 4 based on rat inhalation LC50 (1hr) = 14.7mg/L (4-hour equivalent 4.35mg/L) (JMPR206 (1972)). In addition, the saturated concentration of this product is about 0.47ppm (3.7mg/m3) (20degC), and it is presumed that the inhalation study was done in mist conditions.
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	It was set as Category 3 from description that skin of rabbits is stimulated slightly (EHC199 (1998)).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	It is set as Category 2B from statement which stimulates eye of rabbit slightly (slight erythemas and conjunctival chemosis, and all are recovered within seven days)(EHC199 (1998)).
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: although a skin eruption is seen by the workers handling this substance (EHC199(1998), JMPR322(1975)), it cannot check that it is caused in the allergic reaction, and cannot classify according to the shortage of data.
5 Germ cell mutagenicity	Not classified	-	-	-	There was a negative result of the reciprocal translocation test and a dominant fatality test using a mouse, the chromosome aberration test using a mouse spermatocyte, and a mouse spot test (EHC199(1998);JMPR719 (1985)). So it considered as the outside of Category. And it is classified as the out of the Category. In addition, it is reported that a Ames test is negativity (EHC199 (1998)).

6	Carcinogenicity	Not classified	-	-	-	Based on being classified into "Group 3 (it being unable to classify about the carcinogenic to humans)," in IARC (IARC Suppl.7 (1987)), it carried out the outside of category by the technical indicator. In addition, about this product, "it is supposed that there is now only a less persuasive proof on correlation between exposure to a chlordimeform and human bladder cancer generating." (EHC199 (1998) (J)). Moreover, it is classified into Carc.cat 3 (GHS Category about [2]) according to the EU classification.
7	Toxic to reproduction	Not classified	-	-	-	In rat three-generation administration tests and teratogenicity tests, and rabbit teratogenicity tests, only slight effects (decreased feeding & care, reduced weight of babies at weaning, ossification disorder of newborn's sternum, etc.) were seen at maternal toxicity dose (all of them in EHC199 (1998)). Thus, it was set as "out of category".
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system, bladder, kidneys, cardiovascular system); Category 2 (blood system)	Health hazard	Danger	Cause damage to organs (nervous system, bladder, kidneys, cardiovascular system); May cause damage to organs (blood system)	Since there is description that in the document of Priority 1, "it causes a feeling of fatigue, nausea, and an appetite fall in acute poisoning, and causes lethargy, cyanosis, hamdrang, cystitis, a cardiovascular actions (change of tachycardia, bradycardia and ECG), a coma, and a shock in severe cases."(EHC199 (1998)). In addition, the condition of the acute hemorrhagic cystitis accompanied by abdominal pain, dysuria and hematuria were observed to the workers who were engaged in washing of the tank used for the transport of this product (EHC199 (1998)). So it was considered as Category 1 (a nervous system, a bladder, the kidney, cardiovascular system). Moreover, it was considered as Category 2 (blood) from description (ICSC (J) (1994)) "it affects blood and methemoglobin is generated."
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (bladder, kidneys, cardiovascular system, skin)	Health hazard	Danger	Causes damage to organs (bladder, kidneys, cardiovascular system, skin) through prolonged or repeated	Since there is a report that humans in occupational and chonical exposure to this product were affected with hematuria, cystitis, dysuria, pruritus and a rash of the skin (exposure to the skin), etc. in addition to a part of above-mentioned acute symptoms ((EHC199(1998), JMPR322(1975), JMPR719(1985)) the document of Priority 1), it was classified into Category 1 (a bladder, the kidney, cardiovascular systems, skin).
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 96-hour LC50=1mg/L of fishes (Bluegill) (EHC199, 1998).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=2.89(PHYSROP Database, 2005)).