

GHS Classification

ID638

CAS 1918-02-1

Physical Hazards

2-Pyridinecarboxylic acid, 4-amino-3,5,6-trichloro-

Date Classified: Mar. 15, 2007 (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	-	-	-	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	-	-	-	Classification not possible due to lack of data, though "Flammable" (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	Classification not possible	-	-	-	No data 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 oxygen and chlorine and these elements are chemically bonded only 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	Classification not possible	-	-	-	Although HSDB (2005) has the description "caustic is slightly indicated only in mild steel", test methods suitable for a solids material are not established.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 5	-	Warning	May be harmful if swallowed	The higher one of toxicity (LD50=4012 mg/kg) was adopted among rat oral LD50s= 8.2 g/kg (ACGIH (7th, 2001)) and 4012 mg/kg (RTECS (2004)), and it was set as Category 5.
1 Acute toxicity (dermal)	Classification not possible	-	-	-	IARC 53 (1991) describes rabbit dermal LD50 is >4000 mg/kg bw. Although it corresponded to Category 5 or outside of Category, the status of deaths was not able to be checked. So it could not be classified.
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)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Since there were descriptions of mild irritant on human skin (ICSC (J) (1995), HSDB (2005), HSFS (2001), SITTIG (4th, 2002)), it was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Since there was description that the human eye was stimulated (ICSC (J), (1995), HSDB (2005), HSFS (2001), SITTIG (4th, 2002)), it was set as Category 2A-2B. [view] It is more desirable to make it Category 2A from a viewpoint of safety, when subdivision needs to be performed.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: No data Skin sensitization: , Since there is a description in the document of Priority 1 "an evidence that indicates skin sensitization was not identified after giving medication to human subjects" (ACGIH (7th, 2001)), it was put outside of the Category.
5 Germ cell mutagenicity	Not classified	-	-	-	Since there were negative reports by the chromosomal aberration test using the marrow cells of the mouse and the rat (IARC 53 (1991), HSDB (2005)), we classified it as Out Of Category. In addition, it gave negative also for the Ames test (in vitro mutagenicity test), the chromosomal aberration test, and for the cultured cell gene mutation examination (ACGIH (2001), IARC 53 (1991), HSDB (2005)).
6 Carcinogenicity	Not classified	-	-	-	Since it was categorized according to IARC with 3 (IARC 53 (1991)) and was categorized according to ACGIH with A4 (ACGIH (7th, 2001)), it carried out the outside of Category by the guideline.

7	Toxic to reproduction	Not classified	-	-	-	Since it is observed that testicular atrophy was occurred in male rats administered of this substance (NTP TR25 (1976)), but this has also occurred in non-administered groups, it is not indication of clear reproductive toxicity of this substances. Furthermore, there are findings of the growth retardation but not teratogenicity and no effects to survival or development of newborn infants in offsprings of test rats (ACGIH (7th, 2001) and IARC 53 (1991)). Based on the above mentioned, it was judged that there was no specific reproductive toxicity in this substance and it was placed out of classification.
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Since there was a description that the human airway is irritated by this substance (ICSC (J) (1995), HSDB (2005), SITTIG (4th, 2002)), it was set as Category 3 (respiratory irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver, kidneys)	Health hazard	Warning	May cause damage to organs (liver, kidneys) through prolonged or repeated exposure	In Priority 2, since there was description that human liver and kidneys are affected (ICSC (J), (1995), HSFS (2001), SITTIG (4th, 2002)), it was classified to as Category 2 (liver, kidney). In addition, many repetition toxicity studies (oral administration) using a rat or a mouse are performed and the effects on the liver and renal is indicated (ACGIH (7th, 2001), IRIS (1992), IARC 53 (1991), HSDB (2005)) but these dose in a guidance value is within the Category 2 or above .
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=0.027mg/L of Crustacea (Amphipod) (HSDB, 2004).
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=0.3(PHYSROP Database, 2005)).