

GHS Classification

ID1021

2-fluoroacetamide

CAS 640-19-7

Date Classified: May 24, 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	-	-	-	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	Not classified	-	-	-	There is a statement of "it sublimates with heating " in Merck (13th, 2001), and it was considered as out of Category.
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 fluorine and the fluorine 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	-	-	-	Test methods applicable to solid substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	The higher toxic value (LD50= 5.75mg/kg) was adopted between rat LD50= 5.75mg/kg (RTECS (2003)) and 13mg/kg (HSDB (2003)). It was classified as category 2.
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	It was set as Category 2 from rat LD50= 80mg/kg.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	Saturated concentration of this product (sublimates) is calculated to be 4.1mg/L from vapor pressure of 132Pa (25degC), and about 0.14mg/L of inhalation toxicity study concentration is considered as vapor. Therefore, the higher toxic value (LC50 (4 hours) = 0.1366mg/L = 43.3ppm) was adopted among rat LC50 (4 hours) = 0.1366mg/L (male) and 0.1445mg/L (female), (Biomed Environ Sci (2000)). And it was classified as Category 1.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Classification not possible	-	-	-	No data available
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)-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Classification not possible	-	-	-	No data available

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	The spermatid developmental abnormalities and testicular seminiferous epithelium influence are reported in the male rats (HSDB (2003)). Moreover, in a female mice, influence on pregnancy by medication of this substance (allongement of gestational age, the increase in prenatal death and the cyanosis of child, breathing difficulty, and the loss of survival rate) is reported (HSDB (2003)). And the description of ICSC (J) (2002) to humans (it is shown in the animal studies that reproductive and developmental toxicity may be caused by people). So it was considered as Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (cardiovascular system, respiratory)	Health hazard	Warning	May cause damage to organs (cardiovascular system, respiratory)	The substance was classified as Category 2 (cardio-vascular system, respiratory system). Based on the reports about humans in Priority 2 (it may affect the cardio-vascular system, causing arrhythmia (ICSC (J) (2002)). Symptoms such as respiratory depression, cyanosis and ventricular fibrillation as well as vomiting, diarrhea, convulsions, coma and cardiac failure, are observed (SITTIG(4th, 2002)). Judging from the guidance values, the results from an inhalation test in rats (effects on lungs, airways, liver and kidneys) correspond to Category 1, but these results were obtained at the LC50 of 0.7, which is close to the lethal dose, and the data are not from Priority 1 or 2, so the classification criteria are not met. Therefore, the substance was classified as Category 2 according to the technical guidelines.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	No data available
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)	Classification not possible	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data