

GHS Classification

ID962

Paraformaldehyde

CAS 30525-89-4

Date Classified: Jun. 20, 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	Category 2	Flame	Warning	Flammable solid	UNRTDG Class: 4.1; PG III
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	-	-	-	Flash point: 300degC (ICSC (J), 1996) UNRTDG Class: 4.1
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 4.1
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 (but not chlorine and fluorine) and the oxygen is chemically bonded only to carbon (but not to other elements).
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Liquid at a test temperature, 55degC. 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 4	Exclamation mark	Warning	Harmful if swallowed	Rat oral LD50 value: 800mg/kg (RTECS (2005), HSDB (2005)) and >1600mg/kg (PATTY, 4th (1994)). Considering the description of these values, the lower value was adopted and classified as category 4.
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
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	Category 4 because of "SPECIES: Rat (aspiration); ENDPOINT: LC50; VALUE:1.07mg/L" (RTECS, 2005)
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	It was seto as Category 2 from description that severe irritation was admitted by the test using the rabbit (RTECS (2005)), and description that the skin was stimulated (ICSC (J) (1996), HSDB (2005), HSFS (2000), and SITTIG (4th, 2002)).
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	We found the description that severe ocular irritant property was acknowledged in the test using the rabbits (RTECS (2005)), and the descriptions that it stimulated the eyes (ICSC (J) (1996), HSDB (2005), HSFS (2000), and SITTIG (4th, 2002)). However, we found no description that the irreversible pathological change was observed, therefore we classified it as Category 2A.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respiratory organs: There were descriptions that it may cause asthmatic allergy in HSFS (2000), and that it may cause pulmonary sensitization in SITTIG (4th, 2002), however, there was no report of a concrete case, and since data was insufficient, we could not classify it. Skin: Although there is description that it may cause sensitization of the skin by prolonged exposure in ICSC (J), (1996), HSFS (2000), and SITTIG (4th, 2002), there was no report of a concrete case, and since data was insufficient, we could not classify it.
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	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 1 (lung); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (lung); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Because of a description in HSFS (2000) referring to that pulmonary edemas and severe breathlessness were caused by high exposure levels, it was judged lungs as target organs, determined to be Category 1. Moreover, it was judged as Category 3 because of descriptions in ICSC (J) (1996), HSDB (2005), HSFS (2000), and SITTING (4th, 2002) referring to that respiratory tracts were stimulated.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Since data is insufficient, it cannot be classified. Although there are descriptions that the kidney may be affected (HSFS (2000) and SITTING (4th, 2002)), since there is neither concrete case report nor related animal test data, target organ cannot be judged to be the kidney.
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 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 96-hour LC50=60000microg/L of fishes (Rainbow trout (AQUIRE, 2003)).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and rapid degradability and bioaccumulation potential are unknown.