

GHS Classification

ID1380

1,3,5-trinitrobenzene

CAS 99-35-4

Date Classified: Mar. 23, 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	Division 1.1	Exploding bomb	Danger	Explosive; mass explosion hazard	UNRTDG Class: 1.1D
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	-	-	-	UNRTDG Class: 1.1D
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Classified in explosives
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	UNRTDG Class: 1.1D
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 1.1D
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 classified	-	-	-	UNRTDG Class: 1.1D
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 1.1D

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	Of the LD50 values of 450mg/kg and 275mg/kg in rats (IRIS, 1997), we adopted the lower value to classify the substance as Category 3.
1 Acute toxicity (dermal)	Not classified	-	-	-	It was set as the outside of Category from the description that death was not observed by dermal exposure of 2000mg/kg to rabbits (IRIS (1997)).
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	Not classified	-	-	-	From description that irritation was not admitted by the skin irritation test using the rabbit of IRIS (1997), it carried out the outside of Category.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	It was set as Category 1 from description that the irreversible injury was admitted by the eye irritation tests using the rabbit (IRIS (1997)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	Exclamation mark	Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respirator: no data available. Skin: it was referred to as Category 1 from description in which slight skin sensitization was admitted (sensitization rates: 85%) by the skin sensitization study by the Buehler method using the guinea pigs of IRIS (1997).
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
7 Toxic to reproduction	Classification not possible	-	-	-	Although the testicular degeneration is seen in the administration test in lactation period starting from pregnant or before mating using rats (IRIS(1997)), any specific toxicity has not been observed on reproductive potential and generation of offspring. Since there was no description which clearly denies the hazard in other sources of Priority 1, it was presupposed to be unclassifiable due to insufficient data.
8 Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	Although there was description that ataxia and catalepsy were observed in IRIS (1997) in the single-dose oral study in rats, it was unknown whether these influences were temporary, and since there was no other data as same as this, it cannot be classified due to insufficient data.

9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood, testes)	Health hazard	Warning	May cause damage to organs (blood, testes) through prolonged or repeated exposure	Based on descriptions that the effect on testes and blood was observed within range of guidance value in Category 2 in the rat oral study , and that the effect on testes was observed with the dose exceeding range of guidance value in Category 2 a little in the mouse oral study (IRIS (1997)), blood and testes were considered to be target organ, and it classified into Category 2.
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=380microg/L of fishes (American catfish) (AQUIRE, 2003) .
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=1.18(PHYSROP Database, 2005)).