

GHS Classification

ID243

1,3,5-Triazine, hexahydro-1,3,5-trinitro-

CAS 121-82-4

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	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: 1.1
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: 1.1
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 1.1
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 classified	-	-	-	UNRTDG Class: 1.1
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 3	Skull and crossbones	Danger	Toxic if swallowed	It was set as Category 3 based on the value of LD50= 71mg/kg. This value was calculated from rat LD50: 119mg/kg (ACGIH, 7th, 2001, ATSDR1995), 100mg/kg (ACGIH, 7th, 2001, ATSDR1995), 71mg/kg (ACGIH, 7th, 2001, PATTY, 4th, 1994, ATSDR, 1995), and 300mg/kg (ACGIH, 7th, 2001, PATTY, 4th, 1994).
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)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Skin irritation is not observed on humans (Patty (4th, 1994), ATSDR (1995)). But it caused dermatitis and erythema on rabbits and the guinea pigs, respectively (ASTDR, 1995). So it was classified as Category 3.
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	Insufficient data available.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respirator: No data Skin: It is described that a repeated exposure test using guinea pigs found no sensitization (ATSDR, 1995), but no testing method is specified. Therefore we classified this as uncategorizable because of insufficient data.
5 Germ cell mutagenicity	Not classified	-	-	-	The substance was regarded as outside the categories. Because the evaluation of the dominant lethality in the two-generation reproduction study in rats (ACGIH, 7th, 2001) and the in vivo dominant lethal mutagenicity test in rats (ATSDR,1995) were both negative.
6 Carcinogenicity	Not classified	-	-	-	It is classified into A4 according to ACGIH (ACGIH (7th, 2001)) and is classified into C according to EPA (IRIS, 1993). So it was set as the outside of Category.

7	Toxic to reproduction	Classification not possible	-	-	-	There is a description that only the minimum effects to child are observed at the dose with which maternal toxicity develops and that no teratogenicity in the rat teratogenicity study (ACGIH (7th, 2001), IRIS (1993), and ATSDR (1995)). However, there is no other description clearly denied fertility and developmental toxicity. Therefore, it cannot be classified since data is insufficient.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system, liver, kidneys)	Health hazard	Danger	Cause damage to organs (nervous system, liver, kidneys)	Due to the descriptions that the confusion, motility or epileptic convulsions are observed by oral intake by accidents in human (ACGIH, 7th, 2001) and ASTDR (1995), that the nervous system symptom, such as spasm is developed in rat, miniature pig, and dog by oral administration with the range of dose of the guidance value Category 1 (ACGIH, 7th, 2001), Patty (4th, 1994) and ATSDR (1995), and that from description that swelling of the cell endoplasmic reticulum and mitochondria of liver cells and deformation of kidney tubular in oral administration study with 100mg/kg (ACGIH, 7th, 2001). So it was classified into Category 1 (a nervous system, liver, kidney)
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (central nervous system, hematopoietic system); Category 2 (testes)	Health hazard	Danger; Warning	Causes damage to organs (central nervous system, hematopoietic system) through prolonged or repeated exposure; May cause damage to organs (testes) through prolonged or repeated	It was classified in Category 1 (a central nervous system, hematogenous system) based on the descriptions ; as ACGIH (7th, 2001), Patty (4th, 1994), and ATSDR (1995) noted, oversensitive symptom, insomnia, consciousness muddiness, and a spasm were seen in the poisoning case in two or more humans ; as ACGIH (7th, 2001), IRIS (2006), and ATSDR (1995) noted, a tremor, convulsion onset, a necrosis of megakaryocytes in marrow and a spleen, and the appearance of hemosiderin were seen in the 90-day repetition oral administration using cynomolgus with 10mg/kg/day, and oversensitive symptom and a spasm were seen with 25mg/kg/day in the feeding administration for 12 weeks using the rat ; as ACGIH (7th, 2001), Patty (4th, 1994), IRIS (2006), and ATSDR (1995) noted, the same symptom was seen with 50mg/kg/day by six-week repetition oral administration with a dog. Moreover, it was classified in Category 2 (testis) from description in IRIS (2006) that the denaturation of the testis was seen with 35mg/kg/day by the feeding administration tests for 24 months using a mouse.
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=12.7mg/L of fishes (Fathead minnows) (ECETOC TR91, 2003).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Based one NOEC=1.4 mg/L during 28 days of the fish (fathead minnows) (ECETOC TR91, 2003), though acute toxicity was Category 3.