

## GHS Classification

**ID769**

**1,3-Cyclopentadiene**

**CAS 542-92-7**

Date Classified: Jun. 23, 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	Classification not possible	-	-	-	Classification not possible due to lack of data, though the substance contains unsaturated C=C bonds as chemical groups associated with explosive properties present.
2 Flammable gases	Not applicable	-	-	-	Liquid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Liquid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Liquid (GHS definition)
6 Flammable liquids	Category 2	Flame	Danger	Highly flammable liquid and vapour	Although there are deviations in the flash point data, ICSC (1996) data is 25 degC with Open Cup, and other data (Chapman (CD-ROM ver.14.1 2006) and Gangolli (2nd, 1999)) were less than 23 degC (unknown measurements). And it was classified as Category 2 (GHS acceptance criteria: flash point being less than 23 degC, and initial boiling point being more than 35 degC) considering its boiling point: 41.5 - 42.0 degC.
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	Classification not possible due to lack of data, though the substance contains C=C bonds as chemical groups with explosive or self-reactive properties present
9 Pyrophoric liquids	Not classified	-	-	-	The ignition points is 640 degC (ICSC (1996), an organic compounds dictionary (1985), HSDB (2005))
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to liquid substances are not 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	-	-	-	Organic compounds containing no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Boiling point: <55degC (41.5-42degC). Test methods applicable to gas substance 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	Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 113 mg/kg; REFERENCE SOURCE: RTECS(2004)
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 from rabbit dermal LD50 = 430mg/kg (RTECS (2004)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 4	Exclamation mark	Warning	Harmful if inhaled	Based on LC50 (4hr) = 19mg/L which is a converted value for 4 hours of rat inhalation LC50 (1hr) = 39mg/L, it was classified as Category 4. In addition, the saturated concentration of this product is 5.7*10 <sup>-5</sup> ppm (equivalent value: 1550mg/L), and it is presumed that this experiment was conducted with steam.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Classification not possible	-	-	-	Insufficient data available
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Since there is the description that this product stimulates the eyes (PATTY(5th, 2001); ICSC(J) (1996); SITTIG(4th, 2002); HSDB(2005); HSFS (1999)), it was set as Category 2A-2B. [Indications] in the case that subdividing are necessary, it is more desirable to make it Category 2A from the viewpoint of safety.
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)-	Respiratory sensitization: No data Skin sensitization: Since there is no specific data for the description about this substance that skin allergy and contact dermatitis are caused (PATTY(5th, 2001);SITTIG(4th, 2002);HSFS (1999)) , it cannot be classified due to insufficiency of data.
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
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 3 (respiratory tract irritation)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Since this substance had description that mucosa and an respiratory irritation (PATY (5th, 2001); ICSC(J) (1996); SITTIG (4th, 2002)), it is classified into 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	The effect on liver (slight cloudy swelling near lobule) and the kidney (opacity vacuolar degeneration of a kidney nephric tubule epithelium) was observed as a result of the inhalation experiment to the rat in the document of Priority 1(ACGIH(7th, 2001)-ATTY (5th, 2001)). If the conditions of this experiment(for 500 ppm / 7 h/day, and 53 35 times / days) is covered to compare with a guidance value (mg/L/6 h/day, 90 days), average concentration dose serves as 0.45 mg/L/6 h/day, and it is in the range of Category 2 in a guidance value. (In addition, the concentration of saturated solution of the this product was about 574000 ppm, and since it was presumed that the inhalation experiments by 500 ppm was conducted with steam.), it was classidfied into Category 2 (liver, 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)	Classification not possible	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.