

## GHS Classification

**ID944**

**propiolactone**

**CAS 57-57-8**

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	Not applicable	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
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 4	-	Warning	Combustible liquid	Flash point: >60degC and <=93degC
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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	Classification not possible	-	-	-	No data available
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 oxygen (but not chlorine and fluorine) chemically bonded only to carbon (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	No data 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:approx 50-100 mg/kg; REFERENCE SOURCE: HSDB (Access on May 2005)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	Classification not possible due to lack of data
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	Based on rat inhalation LC50 value (30 minutes) = approximately 250ppm (4-hour equivalent: about 88.4ppm) (ACGIH (7th, 2001)), and LC50 (6 hours) value = approximately 25ppm (4-hour equivalent: about 30.6ppm) (ACGIH (7th, 2001)), it was classified as Category 1.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	From description that skin burns (blistering of the skin, hair loss, and scarring) was seen in humans evidence of exposure (HSDB (Access on May 2005)), and description that the skin was stimulated (ICSC (J), (1997), and SITTIG (4th, 2002)), and irritation (erythema-scarring) was accepted with mouse (ACGIH (7th, 2001)), it was set as Category 2.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	There is the description that irreversible corneal opacity was seen with the rabbits(ACGIH (7th, 2001)), and based on the descriptions that causticity (permanent corneal opacification) was shown to the eyes (ICSC (J) (1997) and SITTIG (4th, 2002)). So we classified it as Category 1.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available

5	Germ cell mutagenicity	Category 1B	Health hazard	Danger	May cause genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Since there is a positive result by the micronucleus test which uses a mammalian spermatogenic cell (IARC 71 (1999)), it is set as Category 1B.
6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Since it was classified into 2B in IARC 71 (1999) and in Japan Assoc. of Industrial Health (2005), A3 in ACGIH (7th, 2001), and R in NTP RoC (Access on Dec 2005), it was considered as Category 2.
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)	Because of descriptions in ICSC (J) (1997) and SITTIG (4th, 2002) referring to respiratory tracts stimulating, and of a description in (HSFS (2002)) indicating the possibility of respiratory tracts stimulating, and it was judged as Category 3.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Since data was insufficient, we could not classify it. We have the descriptions that liver and kidney may be affected by prolonged exposure (HSFS (2002) and SITTIG (4th, 2002)), however, there was no concrete case reports, results of epidemiological survey or corroborative animal data tested, therefore we could not judge the liver and kidney as target organs.
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