

## GHS Classification

**ID427**

**Dibutyltin oxide**

**CAS 818-08-6**

Date Classified: May 24, 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	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "solid" according to GHS definition
6 Flammable liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
7 Flammable solids	Classification not possible	—	—	—	Classification not possible due to lack of data, though classified as "flammable" by ICSC (1999).
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Not pyrophoric when in contact with air at ordinary temperatures: the auto-ignition temperature is (the auto-ignition temperature: 2790°C/ICSC, 1000)
11 Self-heating substances and mixtures	Classification not possible	—	—	—	No data available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (insoluble, ICSC (1999))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen bound to elements other than carbon and hydrogen
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "O-O" structure
16 Corrosive to metals	Classification not possible	—	—	—	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 2	Skull and crossbones	Danger	Fatal if swallowed	Based on the rat LD50 (oral value) of 44.9mg/kg representing the lower of the two testing data, 44.9mg/kg and 520mg/kg (CERI Hazard Data 2001-67 (2002)).
1 Acute toxicity (dermal)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the description in the report on the rabbit skin irritation tests (CERI Hazard Data 2001-67 (2002)): "mild irritant," though results are not those of 4-hour application. Also based on the following descriptions of human health effects: "Dibutyl tin oxide compounds generally causes skin and eye irritation," "A single application of the substance to the backs of hands of 5 human volunteers produced no skin irritation," "The workers of two plants A (n=25) and B (n=56), who have been occupationally exposed to dibutyl tin oxide, metal tin, dibutyl tin iodine and dibutyl tin dichloride throughout the manufacturing process of dibutyl tin lauric acid, have been reported to exhibit skin reactions including irritation, eruption and formation of blisters" (CERI Hazard Data 2001-67 (2002)). The substance is thus considered to produce none to slight irritation, and classified into Category 3 from the viewpoint of safety.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the description in the report on the rabbit eye irritation tests (CERI Hazard Data 2001-67 (2002)): "Severe irritant," (though the length of recovery period is not provided). Also based on the description of human health effects (CERI Hazard Data 2001-67 (2002)): "Dibutyl tin compounds generally causes skin and eye irritation,"
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 available Skin sensitization: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	Insufficient data available
6 Carcinogenicity	Classification not possible	—	—	—	No data available
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of malformation in rat fetuses, described in CERI Hazard Data 2001-67 (2002), though no data are available on maternal toxicity.
8 Specific target organs/systemic toxicity following single exposure	Classification not possible	—	—	—	No data available

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver, kidneys)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (liver, kidneys)	Based on the evidence from animal studies including "slight changes in the liver and effects on the renal tubules" (CERI Hazard Data 2001-67 (2002)), "May affect the liver and cause liver damage" (ICSC, 1994). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1 (liver, kidneys).
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 24 hours EC50=0.94mg/L of the crustacea (Daphnia magna) (CERI Hazard Data, 2002).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Although acute toxicity was Category 1 and bio-accumulation was low (BCF=69 (Existing Chemical Safety Inspections Data)), since it was a metallic compound and the underwater action was unknown, it was classified into Category 1.