

## GHS Classification

**ID805**

**bornan-2-one**

**CAS 76-22-2**

Date Classified: Apr. 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	Not applicable	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
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	Category 2	Flame	Warning	Flammable solid	UNRTDG Class: 4.1, PGIII
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	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Not classified because of "Flash point: 460degC" (Hommel, 1991) and a non-pyrophoric solid at a room temperature.
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because it is not classified in UNRTDG Class: 4.2.
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 applicable	-	-	-	Organic compounds containing oxygen (but not chlorine and fluorine) and the oxygen is chemically bonded only to carbon (but not to other elements).
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 4	Exclamation mark	Warning	Harmful if swallowed	SPECIES: Mouse ENDPOINT: LD50 VALUE: 1310 mg/kg REFERENCE SOURCE: RTECS(2004)
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	-	-	-	There is a statement of rat LC50: 0.5mg/L (RTECS (2004)) and it was set to Category 2 when exposed for 4 hours. But it cannot be classified since there was no statement of time of exposure. (It is more desirable to be set as Category 2 from safety perspective, when there are necessities, such as a display.)
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	It was classified as Category 2 from the statement that it caused two burns in exposure of 4 hours (infant) - 50 hours to the gauze containing camphor (HSDB (2005)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Although based on the statement of stimulating to the eyes in humans (ICSC (2003), HSDB (2005)), it was segmented into Category 2B, however, subdividing into 2A and 2B is not possible. When the subdividing for the indications, etc. are necessary, it is more desirable to be set as Category 2A from the viewpoint of safety.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: There is no data and we could not classify it. Skin sensitization: We classified it as Category 1 based on the statement that allergic reactions occurs in human skin by chronic exposure (HSDB (2005)).
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Not classified	-	-	-	It was considered as the outside of Category since the classification of ACGIH was A4.
7 Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	It was classified into category 1B based on description that the Camphor can be used as a drug to which a miscarriage is urged (PIMs (1988)), and it was reported that the pregnant drank by mistake and carried out the miscarriage (HSDB

8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system, kidneys); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (nervous system, kidneys); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Classified into Category 3 (respiratory irritant) based on the description about respiratory irritation (ICSC (2003)), into Category 1 (nervous system) based on the description that its accidental ingestion, etc. showed symptoms such as spasm, epilepsy, coma, respiratory depression, headache, confusion and visual impairment, all which are effects on central or other nervous systems (PIMs (1988), HSDB (2005) and ICSC (2003)), and into Category 1 (kidney) based on the description that comparatively little ingestion induces kidney damage (PIMs (1988)).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver)	Health hazard	Warning	May cause damage to organs (liver) through prolonged or repeated	There was a statement which has a rise of liver leaking enzyme and liver pathological change including a hepatic granuloma (granulomatous hepatitis) in long term ingestion to humans (HSDB (2005)), and since it was priority2, it was classified into Category 2 (liver).
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