

## GHS Classification

**ID225**

**7-oxa-3-oxiranylbicyclo[4.1.0]heptane**

**CAS 106-87-6**

Date Classified: Oct. 1, 2005 (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	-	-	-	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	Not classified	-	-	-	Flash point: >93degC
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	No data available
9 Pyrophoric liquids	Not classified	-	-	-	Flash point: 393degC (ICSC (J), 1998)
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 and hydrogen (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 5	-	Warning	May be harmful if swallowed	Category 5 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: :2830mg/kg (ACGIH 7th, 2001; DFGOT vol.1, 1992) and 2130mg/kg (NTP TR 362, 1989)
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 based on rabbit LD50 value: 680mg/kg (ACGIH 7th, 2001, DFGOT vol.1, 1992, NTP TR 362, 1989).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	Based on rat LC50 (4 hours) value: 800ppm (equivalent of 4.58mg/L) (DFGOT vol.1, 1992, PATTY 4th, 1994, NTP TR 362, 1989), vapor pressure of 800ppm indicates steam with almost no mist. And it was classified as Category 3 by the ppm concentration standard.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the descriptions that edema and erythema were observed in the rabbit skin application test (ACGIH (7th, 2001) and NTP TR 362 (1989)) and that severe irritation was observed in Draize test on rabbits (PATTY (4th, 1994)), it was classified as Category 2.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	It was set as Category 2A from description that severe irritation (highly irritating) was accepted in the test applied to the eye of the rabbit of ACGIH (7th, 2001).
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respirator: No data Skin : ACGIH (7th, 2001), PATTY (4th, 1994), and IARC 60 (1994) describe one case of allergic contact dermatitis, which do not fit the criteria since they all describe the same case. We therefore classified this as uncategorizable because of insufficient data.
5 Germ cell mutagenicity	Classification not possible	-	-	-	There are no results from in vivo tests. Although there are positive results from the chromosome aberration test and the gene mutation test using mammalian cultured cells and the bacterial reverse mutation test (ACGIH 7th, 2001, DFGOT vol.1, 1992, IARC 60, 1994, NTP DB, 2005), after reviewing the original document, the in vitro mutagenicity test were strongly positive for several parameters. So it was decided that the substance could not be classified.

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)	It is classified into 2B according to IARC (IARC 60, 1994), and into 2B according to Japan Society for Occupational Health (Japan Society for Occupational Health magazine 47, 2005), and into A3 according to ACGIH (ACGIH 7th, 2001), and is classified into R according to NTP (NTP Roc 11th, 2005). So it was set as Category 2.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Since there is the effect to ovaria and testis in 13-week oral administration test using rat and mouse, and the effect to ovaria in 13-week dermal administration test using mouse (NTP TR 362 (1989)), it is classified into the Category 2
8	Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic effects, respiratory tract irritation)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects, respiratory tract irritation)	Due to the description that respiratory irritant was observed in the inhalation exposure test using the rat in ACGIH (7th, 2001), it was classified into Category 3 (respiratory irritant). Moreover, due to the description that loss of activity and staggering gaits were observed in the oral single dose and dermal administration studies using rat and mouse in NTP TR 362 (1989). So it is judged that it has anesthetic actions, therefore, it was classified in to Category 3 (anesthetic action).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (immune system)	Health hazard	Warning	May cause damage to organs (immune system) through prolonged or repeated exposure	From description in NTP TR 362 (1989), ACGIH (7th, 2001) and PATTY (4th, 1994) that immunosuppressive was seen with the given dose of the guidance value range of Category 2 in immune functional test by dermal exposure during 14 days using the mouse, it was classified in Category 2 (immune systems).
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.