

## GHS Classification

**ID1027**

**isobenzan**

**CAS 297-78-9**

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	-	-	-	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	Classification not possible	-	-	-	Although its molecular structure is resistant to fire and is indicated as "Non-combustible" in ERG (Guide 151, 2004) corresponding to UN No.2761, data is insufficient. So it cannot be classified.
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	-	-	-	Non-pyrophoric when in contact with air at a room temperature and used as agricultural chemicals.
11 Self-heating substances and mixtures	Classification not possible	-	-	-	The melting points is 121 degC (Lide, 85th, 2004), and the test to which the melting points was suitable for the substance of the shape of a solid of 140 degC or less is not established.
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 and chlorine and these elements are chemically bonded only to carbon and hydrogen (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 2	Skull and crossbones	Danger	Fatal if swallowed	Based on the rat LD50 values: 4.8mg/kg, 14.4mg/kg, 5.4mg/kg, 7.2mg/kg, 10mg/kg, and 8mg/kg (EHC, 129, 1992), calculation was done and calculated value adapted for category (LD50= 5.94mg/kg).
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	Based on calculated rat LD50= 4.5mg/kg (from LD50 = 4mg/kg, 10mg/kg and 8.5mg/kg (EHC, 129, 1992)), it was categorized.
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	-	-	-	No data available
2 Skin corrosion / irritation	Not classified	-	-	-	From description that skin irritation was not admitted by the examination of the rabbit and the guinea pig (EHC, 129, 1992), and from description that there was no report of humans skin irritation (HSG (Health&Safety Guides), 61, World Health Organization/IPCS, 1991), it was carried out the outside of Category.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	There were no results of an animal experiments. But it is believed that there is mild irritation due to the description "an eye may be stimulated" (HSG (Health&Safety Guides), 61, World Health Organization/IPCS, 1991). So it was classified into Category 2B.
4 Respiratory/skin sensitization	Classification not possible; Skin sensitization: Classification not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
6 Carcinogenicity	Classification not possible	-	-	-	There were two reports of a mouse (positive) and rat (negative). But it is inadequate for judging cancer causings, and it cannot be classified due to insufficient data.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	It was considered as Category 2 since in the study of the rat of EHC129 (1992) of Priority 1 document, reduction of the number of newborn and decline in a child's survival rate were seen at the dose in which toxicity (convulsion) is observed in the parental animals.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system)	Health hazard	Danger	Cause damage to organs (central nervous system)	The substance was classified as Category 1 (central nervous system) because there is a mention of effects on the central nervous system in the reports in humans and animals (including rats) in EHC129 (1992), a Priority 1 document.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (central nervous system, heart, liver)	Health hazard	Danger	Causes damage to organs (central nervous system, heart, liver) through prolonged or repeated exposure	In EHC129 (1992; Priority 1 document), we found the description that effect was observed to the central nervous system, heart, and liver in repeated exposure to rats and rabbits, and we classified it into Category 1 (the central nervous system, heart, liver) based on the comparison with respective guidance values.
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 48-hour EC50=0.034microg/L of Crustacea (Northern Brown shrimp) (EHC129, 1992).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative (log Kow=4.51 (PHYSPROP Database, 2005)).