

## GHS Classification

**ID697**

**Benzene, 1-methoxy-2-nitro-**

**CAS 91-23-6**

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 classified	-	-	-	Not classified in UNRTDG Class: 1
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	-	-	-	It is not classified into the un transportation dangerous class 4.1 although it has a nitro group. If decomposition heat is less than 300 J/g or SADT is more than 75 degC, it will become "Outside Category", but the data is not found. There is potential of "Class G".
9 Pyrophoric liquids	Not classified	-	-	-	Not Classified in UNRTDG Class: 4.2
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 classified	-	-	-	Not classified in UNRTDG Class: 5.1, though containing oxygen bonded to nitrogen.
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 on tests

## 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	Since rat oral toxicity average value was 740mg/kg, it was set as Category 4.
1 Acute toxicity (dermal)	Not classified	-	-	-	There was no nonsurviving animals at 2000mg/kg in the dermal exposure experiment of rats. And there was also no serious acute toxicity report. So it was set as outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (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	-	-	-	Since the skin irritation was not observed in rabbit examination (DFGOT vol.9 (1998)), it was classified as "out of Category."
3 Serious eye damage / eye irritation	Not classified	-	-	-	There is slight irritation by the examination of a rabbit and it had recovered within 24 hours (DFGOT vol.9 (1998)). It was judged that it did not correspond to Category. BUA140 (1993) is also judged about the same experiment to be "no irritant."
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)-	No data available
5 Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	We found no in vivo data, however, we have not a little in vitro mutagenicity test data, and these findings are thought to show the mutagenicity positivity in multiple indices clearly. So we classified it as "Category 2".

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)	IARC had judged with "2B" in the monograph 65 in 1996 and it was set as "2." Although set to "Category 1B" from the category 2 of EU, the judgment of IARC was adopted according to notes of guidance.
7	Toxic to reproduction	Not classified	-	-	-	Effect was observed in the pregnant rat oral administration test. Moreover, it is reported of effect on male genitalia in oral administration test for 13 weeks at high dose (DFGOT vol.9 (1998)). Since there was no teratogenic, and there was no clear description of affecting to female genitals at lower dose of general toxicity, it was considered as "Category Outside." (It is based on an experts' comments)
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	There is no validate test data and it cannot be classified. There is the description about "dyspnoea/piloerection" as finding of an acute fatality test (RTECS (2005)).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood, liver, spleen, bladder)	Health hazard	Warning	may cause damage to organs (blood, liver, spleen, bladder) through prolonged or repeated exposure	It was classified to as "Category 2" because the bad influences, such as hemolytic anemia and internal organ weights etc., are observed in oral repeated exposure for four weeks or more to a rat (more than 40mg / kg/day) (DFGOT vol.9 (1998)).
10	Aspiration hazard	Classification not possible	-	-	-	Classification not possible due to lack of data on chemical pneumonia

### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 24-hour EC50=59mg/L of Crustacea (Daphnia magna) (IUCILID, 2000).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Based on NOEC=13 mg/L during 21 days of the shellfish (Daphnia magna) (ECETOC TR91, 2003), though acute toxicity was Category 3.