

## GHS Classification

**ID800**

**dimethylnitrosoamine**

**CAS 62-75-9**

Date Classified: Jul. 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 classified	-	-	-	Containing nitro groups with its oxygen balance <-200 (-216), (C2H6N2O + 5O2 -> 2CO2 + 3H2O + 2NO2; oxygen balance = -1600 * 10/74 = -216)
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	Category 4	-	Warning	Combustible liquid	Category 4 because of its flash point: 61degC(ICSC, 2001)
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	No data available
9 Pyrophoric liquids	Classification not possible	-	-	-	No data available
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	Classification not possible	-	-	-	No data available
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	There are no chemical groups associated with peroxide present in the molecule.
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 2	Skin and health hazard	Danger	Fatal if swallowed	It was set as Category 2 based on rat oral acute toxicity LD50= 27mg/kg (statistical process value).
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: dust, mist)	Category 1	Skin and health hazard	Danger	Fatal if inhaled	It was classified as Category 1 based on rat acute inhalation toxicities LC50 = 78ppm (ACGIH (2001), PATTY, 5th (2001)).
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 report of irritativity on human skin (ICSC(2001); Patty, 5th (2001)) and the statement of "not significantly irritating to the skin" (Patty, 5th (2001)), it was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on that irritation is reported to the man's eye (ICSC(2001); PATTY, 5th (2001)), and that there is the statement of "not significantly irritating to the eyes" (Patty, 5th (2001)), it was set as Category 2B.
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)-	About respiratory sensitization and skin sensitization, there is no data for both of them.
5 Germ cell mutagenicity	Category 1B	Health hazard	Danger	May cause genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Based on the fact that it gave positive (CICAD (2002)) for the mouse productive cells micronucleus examination which was an in vivo mutagenicity test using the productive cells, we classified it as Category 1B. In addition, alkylation was also acknowledged in human hepatocyte DNA (ATSDR (1989)).

6	Carcinogenicity	Category 1B	Health hazard	Danger	May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	The existing classification is carried out as IARC: 2A, NTP: R, and EU Carc.: Cat.2. It was set as category 1B.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	There is a report of induction of stillbirth and newborn child death in mouse oral administration at 0.02mg/kg/day (in drinking water) and no information about maternal toxicity (ATSDR (1989)). It was classified into Category 2 based on the above.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (liver); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (liver); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	It is reported that exposure to humans causes adverse effects including jaundice, ascites, prolonged vomiting and abdominal spasm (ATSDR (1989)). Therefore we classified it into Category 1 (liver). And animal data also suggest the toxicity to liver. In addition, respiratory irritation was reported (ICSC (2001)). So we classified it as Category 3 (respiratory irritant).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver)	Health hazard	Danger	Causes damage to organs (liver) through prolonged or repeated	Based on the statement that by repetitive oral administration with the dose equivalent to the guidance value of Category 1 to rats and rabbits, vacuolization of hepatic cells and fibrosis of liver are observed (ATSDR (1989)), and that an liver dysfunction and liver cirrhosis may be occurred in humans (ICSC (2001)), it was classified into Category 1 (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)	Not classified	-	-	-	It carried out the outside of Category from 96-hour LC50=280-445mg/L of Crustacea (Amphipod) (CICAD38, 2002).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (water solubility=1.00*106mg/L(PHYSROP Database, 2005)) and acute toxicity is low.