

## GHS Classification

**ID1309**

**Diaminotoluene**

**CAS 25376-45-8**

Date Classified: Feb. 20, 2007 (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	-	-	-	No data available
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	-	-	-	It is used as an intermediary body, etc. for dyes. It was thought that it did not ignite spontaneously even if it contacts the normal temperature air, and it was defined as "out of Category".
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to solid (melting point <= 140degC) 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	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Organic compounds containing no oxygen, fluorine and chlorine.
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 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the rat oral LD50 = 270mg/kg for toluenediamine (the composition ratio unknown) (RTECS(1997)), the substance was classified as Category 3.  [Note] This substance is a general term for 2, 3-, 2, 4-, 2, 5-, 2, 6-, 3, 4-, 3, 5-diaminotoluene, and there are no findings in which the composition ratios of the substances are identified. Refer to the classification results of the most common isomers, 2,4-toluenediamine (ID167, CAS: 95-80-7) and 2,5-diaminotoluene (para-toluenediamine, ID1324, CAS: 95-70-5). For the health hazard information, the classification results for 2,4-toluenediamine (ID167, CAS: 95-80-7) are listed when necessary.
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 from rat dermal LD50 = 463mg/kg (RTECS (1997)) of toluene-diamine (composition percentage unknown).
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	Classification not possible	-	-	-	Data without. In addition, 2,4-toluenediamine (ID 167, Chemical Abstracts Service:95-80-7) is set as category 3.
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	While there is a report that irritation is not caused to the eye of a rabbit with each isomer of toluenediamine (HSDB (2003)), there is one example of knowledge which accepted blepharitis with corneal opacity in humans (HSDB(2003)), since data is insufficient, it cannot classify. In addition, in 2,4-toluenediamine (ID167, CAS: 95-80-7), it is referred to as Category 2A.
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: no data available. Skin sensitization : since the toluenediamine is assumed to be the human skin sensitization substance, and 2,4-toluenediamine (ID167,CAS:95-80-7) that is one of the isomers is classified into Category 1, it was referred to as Category 1.

5	Germ cell mutagenicity	Classification not possible	-	-	-	No data. In addition, in 2,4-toluenediamine (ID 167, C AS: 95-80-7), it is considered as the outside of Category.
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)	Since substantial amount of 2,4-toluenediamine (ID 167, CAS: 95-80-7) classified into category 2 were included, it was set as category 2.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Although any effect on reproduction is not found in human epidemiological study, there are several reporting reduced sperm counts (HSDB (2003)). In addition, in 2,4-toluenediamine (ID 167, CAS: 95-80-7), it has been classified as Category 2 based on the effect on reproductive potential of male animals and generation of baby animals. Thus it was similarly set as Category 2
8	Specific target organs/systemic toxicity following single exposure	Category 1 (liver)	Health hazard	Danger	Cause damage to organs (liver)	Since a certain kind of diamine including toluidine amines indicates severe hepatotoxicity to laboratory animals (HSDB (2003)), in addition 2, 4-toluenediamine (ID 167, CAS:95-80-7) has hepatotoxicity to humans, it was considered as Category 1 (liver). In addition, it is considered as Category 1 (liver, a central nervous system, blood systems) and Category 3 (respiratory irritant) in 2,4-toluenediamine (ID 167, CAS: 95-80-7).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver)	Health hazard	Danger	Causes damage to organs (liver) through prolonged or repeated exposure	Since a certain kind of diamine including toluidine amine shows severe hepatotoxicity in laboratory animals (HSDB (2003)), in addition, since the effect on the liver of 2 and 4-toluenediamine (ID 167, Chemical Abstracts Service:95-80-7) was observed in the range of the guidance being equivalent to Category 1 in laboratory animals, it was classified into Category 1 (liver). In addition, it is classified into Category 1 (liver, kidney) and Category 2 (blood systems, spleen, testes) in 2 and 4-toluenediamine (ID 167, Chemical Abstracts Service:95-80-7).
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 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 48-hour EC50=4.3mg/L of Crustacea (Daphnia magna) (IUCLID, 2000).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Classified into Category 2, since acute toxicity was Category 2, and supposed not rapidly degrading (BIOWIN), though supposed less bio-accumulative (log Kow=0.16(PHYSPROP Database, 2005)).