

## GHS Classification

**ID324**

**N-Ethylaniline**

**CAS 103-69-5**

Date Classified: Sep. 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 applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6 Flammable liquids	Category 4	—	Warning	Combustible liquid	The flash point is 85degC (open cup flash test) (ICSC (2001)), which is classified into "Category 4"
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	—	—	—	Not pyrophoric when in contact with air at ordinary temperatures: the auto-ignition temperature is 480degC (ICSC, 2001).
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to 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	—	—	—	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13 Oxidizing liquids	Not applicable	—	—	—	Organic compounds containing no oxygen, fluorine and chlorine
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Not classified	—	—	—	Classified into Division 6.1 (UN#2272) (UN Recommendations on the Transport of Dangerous Goods).

## 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	Based on the LD50 value of 382mg/kg calculated from the testing data of rat LD50 (oral route) of 1,100mg/kg (PATTY (4th, 1999)), 382mg/kg and 553mg/kg (Report by the Ministry of Health, Labour and Welfare (1996)).
1 Acute toxicity (dermal)	Category 5	—	Warning	May be harmful in contact with skin	Based on the rat LD50 (dermal route) value of 4,700mg/kg (RTECS (2006)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	Insufficient data available
1 Acute toxicity (inhalation: gas)	Classification not possible	—	—	—	Insufficient data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description of the human health effects (ICSC (J) (2001)): "Redness and pain" (though the severity of the effects are unknown). Although the substance can be included in Category 2 or 3, it is classified as Category 2 from the viewpoint of safety.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Based on the description of the human health effects (ICSC (J) (2001)): "Redness and pain" (though the severity of the effects are unknown). Although classified into Category 2A-2B, it should be placed in Category 2A from the viewpoint of safety.
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) —	Respiratory sensitization: No data available Skin sensitization: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	Based on the absence of data on in vivo mutagenicity tests and no positive data on in vitro mutagenicity tests (several indices), described in NTP DB (Access on May 2006) and Report by the Ministry of Health, Labour and Welfare (1996).
6 Carcinogenicity	Classification not possible	—	—	—	No data available
7 Toxic to reproduction	Classification not possible	—	—	—	No data available
8 Specific target organs/systemic toxicity following single exposure	Category 1 (blood system)	Health hazard	Danger	Causes damage to organs (blood system)	Based on the evidence from animal studies including "cyanosis, brown urine, and discoloration of the oculus/visible mucosae/distal body surface" (Report by the Ministry of Health, Labour and Welfare (1996)), "normochromic anemia; increased by 50-60% blood methemoglobin content" (HSDB (2003)), "adversely affects blood, and may produce methemoglobin" (ICSC (J) (2001)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (blood system)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (blood system)	Based on the evidence from animal studies including "cyanosis, discoloration of the oculus and urine, and paleness," "significant increase in blood methemoglobin content, and hemolytic anemia including the occurrence of red blood cells with Heinz bodies" (Report by the Ministry of Health, Labour and Welfare (1996)), "decreased hemoglobin levels/RBC, increased methemoglobin levels/WBC" (HSDB (2003)), "adversely affects blood, and may produce methemoglobin" (ICSC (J) (2001)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
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 hours EC50=4.3mg/L of the crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 2001).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	—	Toxic to aquatic life with long lasting effects	Although acute toxicity was Category 2 and the bio-accumulation potential was low (BCF=13(Existing Chemical Safety Inspections Data)), since there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), it was classified into Category 2.