

GHS Classification

ID854

Triethylamine

CAS 121-44-8

Date Classified: Sep. 1, 2005 (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	-	-	-	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 2	Flame	Danger	Highly flammable liquid and vapour	Flash point: <23degC, Initial boiling point: >35degC, UNRTDG Class: 3, PG II
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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 classified	-	-	-	Flash point: 230degC (ICSC(J) (2002))
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 3
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	-	-	-	Organic compounds containing no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 3

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	Calculated based on rat LD50 values: 460mg/kg (ACGIH 7th, 2001, DFGOT vol.13, 1999, PATTY 4th, 1994), 560mg/kg, 730mg/kg and 1029mg/kg (DFGOT vol.13, 1999). Since the calculated values was 471.8mg/kg, it was set as Category 4.
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 based on rabbit LD50 values: 420mg/kg (ACGIH 7th, 2001), 415mg/kg, 578mg/kg (DFGOT vol.13, 1999), and 416mg/kg (PATTY 4th, 1994).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	Based on the rat LC50 (4 hours): 1250ppm (equivalent: 5.163mg/L) and 2600 ppm (equivalent: 10.74mg/L) (DFGOT vol.13, 1999), lower value was adopted. 1250ppm could be judged as the steam with almost no mist from vapor pressure. And classified according to the ppm concentration standard, it was classified as Category 3.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	It was set as Category 1A-1C from description that caustic was admitted in the skin irritation test using the rabbit (ACGIH (7th, 2001), DFGOT (vol.13, 1999)).
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	There is the description that in the eye irritation tests using the rabbit, caustic was acknowledged (ACGIH (7th, 2001) and DFGOT (vol.13, 1999)). So it was set as Category 1.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	-	-	-	Respiratory organ: No data. Skin: We classified it as Out Of Category based on the description in DFGOT (vol.13, 1999) that in the ear-swelling test using the mouse, sensitizing property was not acknowledged.
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Not classified	-	-	-	Not classified because of "A4" (ACGIH, 7th, 2001)
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data

8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system, respiratory organs)	Health hazard	Danger	Cause damage to organs (central nervous system, respiratory organs)	Description that effect is acknowledged to the central nervous systems in humans evidence of exposure of ACGIH (7th, 2001), and description that visual disturbances is seen in humans evidence of exposure of ACGIH (7th, 2001), DFGOT (vol.13, 1999), and IRIS (2005), and description that change of brain wave is acknowledged in the humans of PATTY (4th, 1994), and it was set as Category 1 (central nervous systems). Moreover, in the inhalation exposure test (exposure time unknowns) using the mouse of ACGIH (7th, 2001), from the description that the decrease in breathing rate is acknowledged by the low concentrations which is 156 – 180ppm, and it is corrosiveness, and it was set as Category 1 (respiratory tracts).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (central nervous system)	Health hazard	Danger	Causes damage to organs (central nervous system) through prolonged or repeated	Based on the description that in the repeated oral administration test using the rat, the effects on the central nervous systems were observed within the Category 1 guidance value range (ACGIH (7th, 2001) and DFGOT (vol.13, 1999)), and the description that in the occupational evidence of exposure in humans, visual disturbances are observed (ACGIH (7th, 2001), DFGOT (vol.13, 1999), and IRIS (Access on Sep 2005)), it was classified into Category 1 (central nervous systems).
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 72-hour ErC50=8mg/L of the algae(Selenastrum) (MOE eco-toxicity tests of chemicals, 1999).
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 not rapidly degrading (BOD: 28% (existing chemical safety inspections data)), though less bio-accumulative (BCF<4.9 (existing chemical safety inspections data)).