

GHS Classification

ID886

Methane, nitro-

CAS 75-52-5

Date Classified: Oct. 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 classified	-	-	-	UNRTDG Class: 3
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 3	Flame	Warning	Flammable liquid and vapour	23 degC<= flash point <=60 degC [special note] Although this product is classified as Category 2 with UNRTDG classification, flash point data obtained from all materials were clearly more than 23 degC. So it was classified as Category 3. But expert judgement is required for its validation.
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Not classified	-	-	-	Classified in UNRTDG Class: 3
9 Pyrophoric liquids	Not classified	-	-	-	Flash point: 415degC (Hommel, 1991 Card No.297)
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 classified	-	-	-	UNRTDG Class: 3
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	Category 4 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: :940mg/kg; (NTP TR 461, 1997), 1210mg/kg; REFERENCE SOURCE: ACGIH 7th, 2001, DFGOT vol.19, 2003, NTP TR 461, 1997)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
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	Category 3	-	Warning	Causes mild skin irritation	It was set as Category 3 from description that the skin of the humans was stimulated slightly (ACGIH (7th, 2001), DFGOT (vol.19, 2003)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Based on the description that the eye is not stimulated (ICSC (J) (1999)), it was set as Category 2A-2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respiratory organ: No data. Skin : Although there was a possibility that it is classified to be Out Of Category based on the description that skin sensitizing property was not acknowledged in the study using the guinea pigs in IUCLID (2000), we presupposed that we could not classify it because of insufficiency of data.
5 Germ cell mutagenicity	Not classified	-	-	-	There is a negative result with micronucleus test on mouse red corpuscles which is an in vivo mutagenicity test using somatic cells (ACGIH 7th, 2001, DFGOT vol.19, 2003, IARC 77, 2000, NTP DB, 2005). So it was classified as out 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)	It was classified into group 2B (IARC 77, 2000) in IARC, 2B (industrial hygiene academic society magazine 47, 2005) in Japan Assoc. of Industrial Health and A3 (ACGIH 7th, 2001) in ACGIH. So it was considered as Category 2.
7	Toxic to reproduction	Classification not possible	-	-	-	Although low sperm count and reduction of sperm motility are observed in the rat and mouse 13-week inhalation exposure test (ACGIH (7th, 2001) and IARC 77 (2000)), it cannot be classified due to absent of data about whether it is
8	Specific target organs/systemic toxicity following single exposure	Category 1 (liver); Category 2 (kidneys); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (liver); May cause damage to organs (kidneys); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	From description in NTP TR 461 (1997) that the influence on liver was seen in the oral administration study at guidance value within the limits of Category 1 using dogs, from description that the renal influence was seen at guidance value within the limits of Category 2, it was set as Category 1 (liver) and Category 2 (kidney). Moreover, it was set as Category 3 (respiratory irritant) from description in DFGOT (vol.19, 2003) that respiratory irritant was seen in the inhalation exposure test using rabbits and guinea pigs.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver, blood, respiratory organs, nervous system)	Health hazard	Warning	May cause damage to organs (liver, blood, respiratory organs, nervous system) through prolonged or repeated exposure	Based on the description that respectively the effects on the liver in the oral study using the rat, and the effects on the blood, respiratory systems, and nervous systems in the repeated inhalation exposures test using the rat or mouse were observed with the dosage a little exceeding the Category 2 guidance value range (ACGIH (7th, 2001), DFGOT (vol.19, 2003), PATTY (4th, 1994), IARC 77 (2000), or NTP TR 461 (1997)), it was classified into Category 2 (liver, blood, respiratory systems, and 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 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 72-hour ErC50=ca.36mg/L of algae (Scenedesmus) (IUCLID, 2000).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and not rapidly degrading (BOD: 4% (existing chemical safety inspections data)), though less bio-accumulative (log Kow=-0.35(PHYSROP Database, 2005)).