

GHS Classification

ID645

Methane, isocyanato-

CAS 624-83-9

Date Classified: Jun. 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 | - | - | - | 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 | Category 2 because of its flash point: -7 degC (ICSC (J), 2003), boiling point: 39 degC (Hommel, 1991) |
| 7 Flammable solids | Not applicable | - | - | - | Liquid (GHS definition) |
| 8 Self-reactive substances and mixtures | Not classified | - | - | - | Classified in UNRTDG No. 2480 METHYL ISOCYANATE, Class: 6.1, PGI |
| 9 Pyrophoric liquids | Not classified | - | - | - | Since the ignition points is 534 degC (Hommel (1991)), and exceeds 70 degC, it was classified as the outside of Category. |
| 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 | Not applicable | - | - | - | Organic compounds containing oxygen (but not chlorine and fluorine) chemically bonded only to carbon (but not to other elements). |
| 14 Oxidizing solids | Not applicable | - | - | - | Liquid (GHS definition) |
| 15 Organic peroxides | Not applicable | - | - | - | Containing no -O-O- structure |
| 16 Corrosive to metals | Classification not possible | - | - | - | Test methods applicable to liquid substances with boiling point of >55degC are not available. Boiling point: 39 degC (Hommel, 1991) |

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 | Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 71 mg/kg; REFERENCE SOURCE: ACGIH (2001) |
| 1 Acute toxicity (dermal) | Category 1 | Skull and crossbones | Danger | Fatal in contact with skin | It was set as Category 1 from rabbit dermal LD50= 0.21mg/kg (ACGIH (2001)). |
| 1 Acute toxicity (inhalation: gas) | Not applicable | - | - | - | Liquid (GHS definition) |
| 1 Acute toxicity (inhalation: dust, mist) | Classification not possible | - | - | - | Saturated concentration is 459406ppm, and it is guessed that each inhalation study is done in the state of steam. Since there is no data about mists, it cannot be classified. |
| 2 Skin corrosion / irritation | Category 2 | Exclamation mark | Warning | Causes skin irritation | It was estimated as Moderate as a result of Draize test on rabbits, and it was reported that it also cause irritations or damages on humans (RTECS (2004)), it was classified as Category 2. |
| 3 Serious eye damage / eye irritation | Category 1 | Corrosion | Danger | Causes serious eye damage | Since it was estimated as Severe as a result of Draize test using a rabbit (RTECS (2004)), and irreversibly damage was also reported in humans (ACGIH (2001)), it was set as Category 1. |
| 4 Respiratory/skin sensitization | Respiratory sensitization: Category 1; Skin sensitization: Category 1 | (Respiratory sensitization)Health hazard; (Skin sensitization)Exclamation mark | (Respiratory sensitization)Danger; (Skin sensitization)Warning | (Respiratory sensitization)May cause allergy or asthma symptoms or breathing difficulties if inhaled; (Skin sensitization)May cause allergic skin reaction | Since asthma is caused as an acute symptoms by humans (ACGIH (2001)), the respiratory sensitization is pointed out(EU R42/43, Chapman (2005)) . and Shianeto system compounds are much indicated by the list of the Japanese occupation and environmental allergology meeting, respiratory sensitization was referred to as Category 1. Moreover, since there is a report (ACGIH (2001)) that intracutaneous sensitization tests of the guinea pigs indicated immune responses, the skin sensitization was also referred to as Category 1. |

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|----|--|-----------------------------|---------------|---------|---|--|
| 5 | Germ cell mutagenicity | Category 2 | Health hazard | Warning | Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard) | Based on two reports of the epidemiologic survey that in the mouse inhalation study, bone marrow chromosomal aberration and induction of micronuclei were acknowledged (RTECS, 2004) and that the occurrence frequency of the chromosome aberration was high in the exposed human peripheral blood lymphocyte (in vivo somatic cell information) (HSDB 2005), we categorized it as Category 2. |
| 6 | Carcinogenicity | Classification not possible | - | - | - | In male and female rats and mice, pheochromocytoma to the adrenal gland and slight increases of adenoma to the pancreas is reported only in the male rats(HSDB (2005)). However, it could not be said to be sufficient evidence for a classification, and it was presupposed that it cannot be classified. |
| 7 | Toxic to reproduction | Category 1B | Health hazard | Danger | May damage fertility or the unborn child | In the reference (Schardein JL, Chemically induced Birth Defects—3rd edition, Marcel Dekker, New York, 2000) indicated to the technological direction, stillbirth and the abnormal children's delivery are reported as a result of the environmental emission of this products in Indian plant's incident in 1984. However, it is supposed that an epidemiological study is still more required. Since only the information applicable to Category 1A was not acquired, and it was classified into the Category 1B. In addition, it was reported the increase embryo resorption at dose not affecting maternal body weight in pregnant rat inharation exposure (RTECS (2004)). |
| 8 | Specific target organs/systemic toxicity following single exposure | Category 1 (respiratory) | Health hazard | Danger | Cause damage to organs (respiratory) | Since there is a report of pulmonary edemas, dyspnea, respiratory distress syndrome etc. by humans (ACGIH (2001), HSDB (2005)) and irritation to the human nose and throat has been reported as well (ACGIH (2001)), it was set as Category 1 (respiratory tracts). |
| 9 | Specific target organs/systemic toxicity following repeated exposure | Classification not possible | - | - | - | Since any report were the short administration period and insufficient data, it cannot be classified. |
| 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) | Classification not possible | - | - | - | No data available |
| 11 Hazardous to the aquatic environment (chronic) | Classification not possible | - | - | - | No data available. |