

GHS Classification

ID761

1,2-diethylhydrazine

CAS 1615-80-1

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 classified | - | - | - | As the similar property to the N,N'-Diethylhydrazine's, Sym-Dimethylhydrazine: UNRTDG No. 2382, Class: 6.1, Subsidiary risks Class: 3, P, PG I (not Class: 1, explosives). N,N'-Diethylhydrazine is expected not to be explosives solely. |
| 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 | Not classified | - | - | - | Although the flash point data was not found, it was stated "1,2-Diethylhydrazine may burn, but does not readily ignite." in HSFS (2001). Therefore, it was regarded as "out of Category". |
| 7 Flammable solids | Not applicable | - | - | - | Liquid (GHS definition) |
| 8 Self-reactive substances and mixtures | Classification not possible | - | - | - | They are not explosives although hydrazines structure is included. Since the name has not gone up to list of UNRTDG 2.4.2.3.2.3, there is no formal decisions that it is from class B to F. The information on SADT and heat of decomposition were not acquired, either. Although Class G was presumed, data was insufficient. So it was presupposed "It cannot be classified." |
| 9 Pyrophoric liquids | Not classified | - | - | - | There is no information that it ignites spontaneously in the reliable collection of physical chemistry data. From the description in HSFS (2001) "1,2-Diethylhydrazine may burn, but does not readily ignite.", it was classified as "Outside 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 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 | Classification not possible | - | - | - | Classification not possible due to lack of experimental data, though it is a redusing substance and expected that it does not corrode metals. |

Health Hazards

| Hazard class | Classification | symbol | signal word | hazard statement | Rational for the classification |
|---|--|---|---|---|---|
| 1 Acute toxicity (oral) | Classification not possible | - | - | - | There is no oral administration experimental data, so it cannot be classified. The single dose which exceeds 50mg/kg by intravenous injection to pregnant rat (150mg/kg; refer to carcinogenicity) is performed. HSDB (2003) has a statement that this is less than 33% of LD50. Therefore, infusion LD50 is considered as 450mg/kg or more, and it is presumed that oral acute lethal toxicities is also in the range of "from Category 4 to outside of Category" (probably Category 5). |
| 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 | Classification not possible | - | - | - | Since there was no skin irritation experimental data, it "cannot be classified." Since there is a statement that irritation is caused by skin contacts (HSFS (2001)), it is supposed to be "Category 2" or "Category 3". |
| 3 Serious eye damage / eye irritation | Classification not possible | - | - | - | Since the eye irritations experimental data was not able to be found out, it cannot be classified. Since there is a statement that an irritation is caused by eye contacts (HSFS (2001)), "Category 2A" or "Category 2B" is presumed. |
| 4 Respiratory/skin sensitization | Classification not possible; Skin sensitization: Classification not possible | (Respiratory sensitization)-; (Skin sensitization)- | (Respiratory sensitization)-; (Skin sensitization)- | (Respiratory sensitization)-; (Skin sensitization)- | No data available |
| 5 Germ cell mutagenicity | Classification not possible | - | - | - | There were no in vivo test reports and we found only in vitro test report for Salmonella typhimurium mutant. Data was insufficient and we could not classify it. |

| | | | | | | |
|----|--|-----------------------------|---------------|---------|--|---|
| 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 it had classified into 2B in IARC and Japan Society for Occupational Health, it was set as "2." Although it is said that 1,2-diethyl hydrazine itself is not carcinogenic, it was shown that azoethane and azoxy ethanes as metabolites in internals are carcinogenic in rats. |
| 7 | Toxic to reproduction | Category 2 | Health hazard | Warning | Suspected of damaging fertility or the unborn child | The rat at 15 days from gestation was medicated and cancer (cranial nervous systems) was generated to child (IARC (4th.1974)). The effects on the embryo is also reported in the high-dose (RTECS (2000)). It was classified into "Category 2" from these results. |
| 8 | Specific target organs/systemic toxicity following single exposure | Classification not possible | - | - | - | There is no laboratory reports and it cannot be classified. Since there is a statement tha the respiratory system which includes lungs stimulus by inhalation, and thrill and attack in high concentration exposure (HSFS (2001)), the "category 2 (inhalation, the respiratory system, nervous system)" can be considered. |
| 9 | Specific target organs/systemic toxicity following repeated exposure | Classification not possible | - | - | - | There is no laboratory reports and it cannot be classified. Since there is description that liver and the kidney are damaged in HSFS (2001), it is considered "Category 2 (liver, kidney)." |
| 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. |