# GHS Classification

## ID881 Toluene, 3-nitro-

**CAS 99-08-1** Date Classified: Feb. 20, 2007 (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: 6.1 |
| 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 | – | – | – | Flash point: >93degC, UNRTDG Class: 6.1 |
| 7 | Flammable solids | Not applicable | – | – | – | Liquid (GHS definition) |
| 8 | Self-reactive substances and mixtures | Not classified | – | – | – | Classified in UNRTDG Class: 6.1 |
| 9 | Pyrophoric liquids | Not classified | – | – | – | Flash point: 440degC (Hommel, 1991 Card No.361a) |
| 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 metaloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At). |
| 13 | Oxidizing liquids | Not classified | – | – | – | UNRTDG Class: 6.1 |
| 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: 6.1 |

**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 | Rat LD50 value: 1072mg/kg, 2000mg/kg and 2200mg/kg (IARC 65, 1996). Since the calculated value was 1187mg/kg, it was classified to category 4. |
| 1 | Acute toxicity (dermal) | Classification not possible | – | – | – | Rabbit LD50 value : >20000mg/kg (HSDB, 2005), rat LD50 value: >1157mg/kg (IUCLID, 2000, BUA 41, 1989). So category could not be specified, it cannot be classified due to insufficient data. |
| 1 | Acute toxicity (inhalation: gas) | Not applicable | – | – | – | Liquid (GHS definition) |
| 1 | Acute toxicity (inhalation: vapour) | Classification not possible | – | – | – | There is only a data with rat LC50 (4 hours) value: >157ppm (equivalent 0.879mg/L) in HSDB (2005), Category cannot be specified due to data insufficiency. |
| 1 | Acute toxicity (inhalation: dust, mist) | Classification not possible | – | – | – | The category cannot be specified by only data that rat LC50 (1 hour) value: >2.417mg/L (4-hour equivalent 0.6043mg/L) ( IUCLID (2000), BUA 41 (1989)). And data is insufficient, it cannot be classified. |
| 2 | Skin corrosion / irritation | Category 3 | – | Warning | Causes mild skin irritation | It was set as Category 3 from description that the skin was stimulated slightly (ICSC (J) (2000), HSDB (2005). |
| 3 | Serious eye damage / eye irritation | Category 2B | – | Warning | Causes eye irritation | Based on the description that the skin is stimulated slightly (ICSC (J), (2000), and HSDB (2005)), it was set as Category 2B. |
| 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)- | No data available |
| 5 | Germ cell mutagenicity | Not classified | – | – | – | Since there was a negative result with micronucleus test on rat and mouse red corpuscles which is an in vivo mutagenicity test using somatic cells (NTP DB, 2005), it was classified as out of Category. |
| 6 | Carcinogenicity | Not classified | – | – | – | Since it was classified into the group 3 (IARC 65, 1996) in IARC, it was considered as the outside of Category. |
| 7 | Toxic to reproduction | Category 2 | Health hazard | Warning | Suspected of damaging fertility or the undorn child | It was classified into Category 2 based on the description that testicular dysfunction, such as low sperm count etc., and the female abnormalities of estrous cycle were observed at the dose causing general toxicity, such as a low value of weight etc., in the feeding oral administration tests using the rat and mouse (ACGIH (7th, 2001) and IARC 65 (1996)) . |
| 8 | Specific target organs/systemic toxicity following single exposure | Category 2 (blood system) | Health hazard | Warning | May cause damage to organs (blood system) | It was set as Category 2 (blood) from description in ICSC (J) (2000) that blood may be affected and methemoglobin may be produced. |

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| 9 | Specific target organs/systemic toxicity following repeated exposure | Category 2 (immune system) | Health hazard | Warning | May cause damage to organs (immune system) through prolonged or repeated exposure | Based on the description that in the oral study using the mouse, the effects on the immune systems were observed with the dosage in the Category 2 guidance value range (NTP DB (2005) and PATTY (4th, 1994)), it was classified into Category 2 (immune 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 48-hour EC50=7400microg/L of Crustacea (Daphnia magna), and others (AQUIRE, 2003). |
| 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: 2% (existing chemical safety inspections data)), though less bio-accumulative (BCF=12 (existing chemical safety inspections data)). |