

## GHS Classification

**ID1048**

**CAS 25550-58-7**

### Physical Hazards

**dinitrophenol**

Date Classified: Feb. 20, 2007 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

| Hazard class  | Classification              | symbol         | signal word | hazard statement                 | Rational for the classification  |
|---|-----------------------------|----------------|-------------|----------------------------------|--|
| 1 Explosives  | Division 1.1                | Exploding bomb | Danger      | Explosive; mass explosion hazard | Division 1.1, UNRTDG No. 0076, Class: 1.1D(6.1) (classified in each topic of the physical chemical hazard with drier products UN No. 0076, though the substance has UN No. 0076, 1320, and 1599; difference of the moisture content) |
| 2 Flammable gases   | Not applicable              | -              | -           | -                                | Solid (GHS definition)   |
| 3 Flammable aerosols  | Not applicable              | -              | -           | -                                | Not aerosol products   |
| 4 Oxidizing gases   | Not applicable              | -              | -           | -                                | Solid (GHS definition)   |
| 5 Gases under pressure  | Not applicable              | -              | -           | -                                | Solid (GHS definition)   |
| 6 Flammable liquids   | Not applicable              | -              | -           | -                                | Solid (GHS definition)   |
| 7 Flammable solids  | Not classified              | -              | -           | -                                | Not classified because of UNRTDG No. 0076, Class: 1.1D(6.1) (not Class: 4.1) though "Flammable" (Sax, 11th, 2004)  |
| 8 Self-reactive substances and mixtures                                       | Not applicable              | -              | -           | -                                | Classified in explosives   |
| 9 Pyrophoric liquids  | Not applicable              | -              | -           | -                                | Solid (GHS definition)   |
| 10 Pyrophoric solids  | Not classified              | -              | -           | -                                | Not classified because of UNRTDG No. 0076, Class: 1.1D(6.1) (not Class: 4.2)   |
| 11 Self-heating substances and mixtures                                       | Not classified              | -              | -           | -                                | Not classified because of UNRTDG No. 0076 Class: 1.1D(6.1) (not Class: 4.2)  |
| 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              | -              | -           | -                                | Solid (GHS definition)   |
| 14 Oxidizing solids   | Not classified              | -              | -           | -                                | Not classified because of UNRTDG No. 0076 Class: 1.1D(6.1) (not Class: 5.1).   |
| 15 Organic peroxides  | Not applicable              | -              | -           | -                                | Organic compounds containing no -O-O- structure  |
| 16 Corrosive to metals  | Classification not possible | -              | -           | -                                | Test methods applicable to solid substances are not available.   |

### Health Hazards

| Hazard class                              | Classification  | symbol  | signal word   | hazard statement                                    | Rational for the classification  |
|---|---|---|---|---|--|
| 1 Acute toxicity (oral)                   | Category 2  | Skull and crossbones                                | Danger  | Fatal if swallowed                                  | Since there was a description that 3 - 46mg/kg (ATSDR, 1995), 1 - 3g (17 - 50mg/kg assuming that the weight is 60kg)(HSDB, 2003) as oral lethal dose for human, it was classified as category 2. In addition, although the data of LD50 value of animal was not found, there is an observation of LDLo=30mg/kg (RTECS, 2006) of a rat.<br><br>[Note.] There were six isomers in dinitrophenol. But about the hazardous property over the health of this ID, investigations and classifications were done as CAS No.25550-58-7 (isomer mixture). Also refer to the classification result of 2, 4-dinitro phenol (ID No.0419, CAS No.51-28-5). |
| 1 Acute toxicity (dermal)                 | Classification not possible   | -   | -   | -   | No data available  |
| 1 Acute toxicity (inhalation: gas)        | Not applicable  | -   | -   | -   | Solid (GHS definition)   |
| 1 Acute toxicity (inhalation: vapour)     | Classification not possible   | -   | -   | -   | No data available  |
| 1 Acute toxicity (inhalation: dust, mist) | Classification not possible   | -   | -   | -   | Data without. In addition, HSDB (2003) has a statement that the inhalation toxicity of dust is high, and ATSDR (1995) has the death report of humans in 40mg/m3 (there is possibility of chronic exposure).  |
| 2 Skin corrosion / irritation             | Classification not possible   | -   | -   | -   | There is a statement that the human skin is stimulated (HSFS(2003)). But the data which is supported is not found. And since data is insufficient, it cannot be classified. In addition, the GHS classifications of 2,4-dinitro phenol (ID No.0419, CAS No.51-28-5) is set as category 2.  |
| 3 Serious eye damage / eye irritation     | Classification not possible   | -   | -   | -   | There is the description that it irritates to human eye in HSFS (2003). But the supporting evidence data is not found, and data is insufficient. Therefore, it cannot be classified.   |
| 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)- | Respiratory sensitization: no data available.<br>Skin sensitization : although there is a statement which suggests human skin sensitization to PATTY (5th, 2001), HSDB (2003), and HSFS (2003), since data is insufficient, it cannot classify.  |
| 5 Germ cell mutagenicity                  | Classification not possible   | -   | -   | -   | The data as isomer mixture is not found, and it cannot classify. In addition, there is a positive report by the somatic cell in vivo mutagenicity test (chromosome aberration test of mouse bone marrow cells) of 2,4-dinitrophenol in ATSDR (1995), and by the Ames test of 2,3-,2,5-, 3,4-dinitrophenol.   |

|    |  |   |               |        |  |  |
|----|--|---|---------------|--------|--|--|
| 6  | Carcinogenicity  | Classification not possible   | -             | -      | -  | No data available  |
| 7  | Toxic to reproduction  | Classification not possible   | -             | -      | -  | Although there is the description which suggests the effect on the fetus of human in SITTIG (4th, 2002), since data is insufficient, it cannot be classified. In addition, for 2,4-dinitro phenol, there is a report that incidences of still birth rate increased in rat in ATSDR (1995) .  |
| 8  | Specific target organs/systemic toxicity following single exposure   | Category 1 (systemic toxicity, nervous system, blood system, eye); Category 2 (kidneys, liver); Category 3 (respiratory tract irritation) | Health hazard | Danger | Causes damage to organs (systemic toxicity, nervous system, blood system, eye); May cause damage to organs (kidneys, liver); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract | The substance was classified as Category 1 (systemic toxicity, nervous system, blood system, eyes). Based on the reports in ATSDR (1995), a Priority 1 document, of systemic toxicity (increase of oxygen consumption due to accelerated metabolism at cellular level, increases in respiratory and pulse, and rise in body temperature) and effects on the nervous system, blood system (decrease of leukocyte) and eyes (cataract) in humans (and there are similar reports in PATTY (5th, 2001), HSDB (2003), HSFS (2003) respectively). The substance was also classified as Category 2 (kidneys, liver) and 3 (airway irritant) based on the reports in the Priority 2 documents, HSDB (2003) and HSFS (2003), of effects on the liver and kidneys and airway irritation. |
| 9  | Specific target organs/systemic toxicity following repeated exposure | Category 1 (systemic toxicity, nervous system, blood system, eye, kidneys, liver)   | Health hazard | Danger | Causes damage to organs (systemic toxicity, nervous system, blood system, eye, kidneys, liver) through prolonged or repeated   | We classified it into Category 1 (systemic toxicity, nervous systems, blood systems, the eye, kidney, liver) based on the description about the systemic toxicity (it is based on the oxygen-consumption increase by the hypermetabolism on the cell level, respiration and pulsation increase, and hyperthermic) and effects on the nervous systems, blood systems (reduction in white corpuscles) and the eyes (cataract) (ATSDR (1995; Priority 1 document)), and the description about the effects of four isomers (2, 3-; 2, 5-; 3, 4- ;3, 5- dinitro phenol) on the kidney and liver in humans (PATTY (5th, 2001)).  |
| 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 | -      | -           | -                | Insufficient data available.                    |
| 11 Hazardous to the aquatic environment (chronic) | Classification not possible | -      | -           | -                | Classification not possible due to lack of data |