# GHS Classification

## ID721 bromine pentafluoride

**CAS 7789-30-2** Date Classified: May 24, 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 | Not classified | – | – | – | Not classified because of non-combustible (NFPA, 13th, 2002) |
| 7 | Flammable solids | Not applicable | – | – | – | Liquid (GHS definition) |
| 8 | Self-reactive substances and mixtures | Not applicable | – | – | – | There are no chemical groups associated with explosive or self-reactive properties present in the molecule. |
| 9 | Pyrophoric liquids | Not classified | – | – | – | It considered as the outside of Category from the statement of Not combustible (NFPA (13th, 2002)). |
| 10 | Pyrophoric solids | Not applicable | – | – | – | Liquid (GHS definition) |
| 11 | Self-heating substances and mixtures | Not classified | – | – | – | It considered as the outside of Category from the statement of Not combustible (NFPA (13th, 2002)). |
| 12 | Substances and mixtures, which in contact with water, emit flammable gases | Not classified | – | – | – | Although it reacts violently with water, product is hydrogen fluoride, a hydrogen bromide, etc. and is nonflammability. (However, a reaction is intense, generates heat, and since it generates a toxic substances, it requires attentions.) |
| 13 | Oxidizing liquids | Category 1 | Flame over circle | Danger | May cause fire or explosion; strong oxidizer | UNRTDG Class: 5.1; PG I |
| 14 | Oxidizing solids | Not applicable | – | – | – | Liquid (GHS definition) |
| 15 | Organic peroxides | Not applicable | – | – | – | Inorganic substance |
| 16 | Corrosive to metals | Classification not possible | – | – | – | Test methods cannot be applied because of boiling point: 40degC. |

**Health Hazards**

| | Hazard class | Classification | symbol | signal word | hazard statement | Rational for the classification |
|---|---|---|---|---|---|---|
| 1 | Acute toxicity (oral) | Classification not possible | – | – | – | No data available |
| 1 | Acute toxicity (dermal) | Classification not possible | – | – | – | No data available |
| 1 | Acute toxicity (inhalation: gas) | Not applicable | – | – | – | Liquid (GHS definition) |
| 1 | Acute toxicity (inhalation: | Category 1 | Skull and | Danger | Fatal if inhaled | It was classified as Category 1 based on rat LC50: 96ppm/3.7h (ACGIH (2001)). |
| 1 | Acute toxicity (inhalation: dust, mist) | Classification not possible | – | – | – | No data available |
| 2 | Skin corrosion / irritation | Category 1A-1C | Corrosion | Danger | Causes severe skin burns and eye damage | Based on the description that on contacting vapor or liquid, it hurts and causes burn and deep seated pain, and if prolonged, heat injury (ACGIH (2001)), and since it is designated to U.N. classification subsidiary risks class 8, it was classified as Category 1A-1C. Sub-categories cannot be classified. |
| 3 | Serious eye damage / eye irritation | Category 1 | Corrosion | Danger | Causes serious eye damage | With the statement which causes severe burns to an eye (HSDB (2005)), skin corrosivenesses / irritation was Category 1A-1C, it categoried into category 1. |
| 4 | Respiratory/skin sensitization | Respiratory sensitization: Classification not possible; Skin sensitization: Classification not | (Respiratory sensitization)-; (Skin sensitization)- | (Respiratory sensitization)-; (Skin sensitization)- | (Respiratory sensitization)-; (Skin sensitization)- | No data available |
| 5 | Germ cell mutagenicity | Classification not possible | – | – | – | Classification not possible due to lack of data |
| 6 | Carcinogenicity | Classification not possible | – | – | – | Classification not possible due to lack of data and reports |
| 7 | Toxic to reproduction | Classification not possible | – | – | – | Classification not possible due to lack of data |

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|---|---|---|---|---|---|---|
| 8 | Specific target organs/systemic toxicity following single exposure | Category 1 (respiratory); Category 2 (systemic toxicity) | Health hazard | Danger; Warning | Cause damage to organs (respiratory); May cause damage to organs (systemic toxicity) | At inhalation exposure, the serious lung damage (fibroid lung, emphysema, atelectasis, bronchitis), dyspnea (ACGIH (2001)), pulmonary oedema (ICSC (2000)), bronchial spasms, pulmonary hemorrhage, burn injury of upper respiratory tract (laryngeal, an respiratory tract, bronchus) (HSDB (2005)) is occured and it was set as Category 1 (respiratory-organs system). And there is a publication that ionic balance disturbance in blood, the abnormalities in a cardiac rhythmic movement by inhalation, oral, and percutaneous exposure (HSDB (2005)), and it is classified into Category 2 (whole body toxicity) from it being priority 2. |
| 9 | Specific target organs/systemic toxicity following repeated exposure | Category 2 (tooth, bone, blood) | Health hazard | Warning | May cause damage to organs (tooth, bone, blood) through prolonged or repeated exposure | There are a statement of anemia, leukopenia, dental decolorization, and osteosclerosis (HSDB (2005)) by chronic exposure, and it being priority2, so it was classified into Category 2 (teeth,bones,blood). |
| 10 | Aspiration hazard | Category 2 | Health hazard | Warning | May be harmful if swallowed and enters airways | Category 2 because of ″possible to cause chemical pneumonia″(HSDB, 2005) |

## 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. |