

## GHS Classification

**ID1351**

**Hexafluorosilicic acid**

**CAS 16961-83-4**

Date Classified: Mar. 15, 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 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              | -      | -           | -                | Non-combustible (ICSC(J), 1995).   |
| 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              | -      | -           | -                | Not combustible (ICSC (J), 1995)   |
| 10 Pyrophoric solids  | Not applicable              | -      | -           | -                | Liquid (GHS definition)  |
| 11 Self-heating substances and mixtures                                       | Not classified              | -      | -           | -                | Not combustible (ICSC(J) (1995))   |
| 12 Substances and mixtures, which in contact with water, emit flammable gases | Not classified              | -      | -           | -                | This product is sold as aqueous solutions. Although smoke with a pungent odors was emitted, there is no information that flammable/combustible gases is generated. And it was made into the outside of Category.   |
| 13 Oxidizing liquids  | Classification not possible | -      | -           | -                | No data available  |
| 14 Oxidizing solids   | Not applicable              | -      | -           | -                | Liquid (GHS definition)  |
| 15 Organic peroxides  | Not applicable              | -      | -           | -                | Inorganic compound   |
| 16 Corrosive to metals  | Classification not possible | -      | -           | -                | Although UNRTDG is classified into 8 and II according to the UNRTDG No. (1778), there is not steels or aluminum test data, and it cannot be classified. (About steel, there is also description that "Usually stored in iron containers" (Merck, 13th, 2001)). |

### 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                                | Category 4 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 430 mg/kg; REFERENCE SOURCE: RTECS(2000), HSD(2004)   |
| 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             | Category 1A-1C  | Corrosion   | Danger  | Causes severe skin burns and eye damage             | Since there was description of "corroding the skin" to humans (ICSC (2004), SITTING (4th, 2002)), and was also classified into "C;R34 (Causes burns)" of European risk phrases, it was set as category 1A-1C. [view] It is more desirable to be set as 1A from a viewpoint of safety, when further categorizing needs to be performed. |
| 3 Serious eye damage / eye irritation     | Category 1  | Corrosion   | Danger  | Causes serious eye damage                           | There is description which indicates caustic to the human eye (ICSC(2004), SITTING(4th, 2002)), and it causes corrosive also to the skin. So it is set as Category 1.  |
| 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                  | Classification not possible   | -   | -   | -   | Classification not possible due to lack of data  |
| 6 Carcinogenicity                         | Classification not possible   | -   | -   | -   | No data available  |
| 7 Toxic to reproduction                   | Classification not possible   | -   | -   | -   | No data available  |

|    |  |  |               |         |   |   |
|----|--|--|---------------|---------|---|---|
| 8  | Specific target organs/systemic toxicity following single exposure   | Category 2 (respiratory(inhalation); digestive system, central nervous system) | Health hazard | Warning | May cause damage to organs (respiratory(inhalation); digestive system, central nervous system)      | Since there was a description of Priority 2 to the humans (caustic is indicated to an air passages. And pulmonary edemas may be caused by breathing vapors (ICSC (2004)), it has serious irritant in lungs, a nose, and a throat, it brings a severe obstacle in the throat and the stomach (HSDB (2004)), breathing difficulty, vomiting, nausea etc. by inhalation, and the burning sensations, the pain of a throat and an alimentary canal, a tremor, a spasm of abdominal in oral (SITTIG (4th, 2002)), and the stimulus to the skin and a respiratory tract and headache in accidental spillage from a tank car (HSDB (2004)), this product caused mild gastroenteritis by drinking the tap water which superfluous mixing (IUCALID (2000)), so it was considered as Category 2 (the respiratory systems (inhalation), digestive systems, central nervous systems). |
| 9  | Specific target organs/systemic toxicity following repeated exposure | Category 2 (tooth, bone, respiratory organs)                                   | Health hazard | Warning | May cause damage to organs (tooth, bone, respiratory organs) through prolonged or repeated exposure | Based on description on the humans of Priority 2 (bone change, the mucosal corrosivity effects (nose,throat,bronchial), pneumonia, etc. occurred in long-term exposure (HSDB (2004)), and bone and tooth are affected, and fluorosis may be occurred (ICSC (2004))), it was classified into Category 2 (teeth and bones,respiratory 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)   | Classification not possible | -      | -           | -                | Insufficient data available.                    |
| 11 Hazardous to the aquatic environment (chronic) | Classification not possible | -      | -           | -                | Classification not possible due to lack of data |