

## GHS Classification

**ID939**

**hexafluoroacetone**

**CAS 684-16-2**

Date Classified: Nov. 1, 2005 (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              | -            | -           | -  | Gas (GHS definition)  |
| 2 Flammable gases   | Not classified              | -            | -           | -  | Non-combustible (ICSC(J), 2000; etc.)   |
| 3 Flammable aerosols  | Not applicable              | -            | -           | -  | Not aerosol products  |
| 4 Oxidizing gases   | Not classified              | -            | -           | -  | UNRTDG Class: 2.3. Subsidiary risks Class: 8  |
| 5 Gases under pressure  | Liquefied gas               | Gas cylinder | Warning     | Contains gas under pressure; may explode if heated | Critical temp: >-50degC (Partially liquid at temperatures above -50degC)                          |
| 6 Flammable liquids   | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 7 Flammable solids  | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 8 Self-reactive substances and mixtures                                       | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 9 Pyrophoric liquids  | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 10 Pyrophoric solids  | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 11 Self-heating substances and mixtures                                       | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 12 Substances and mixtures, which in contact with water, emit flammable gases | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 13 Oxidizing liquids  | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 14 Oxidizing solids   | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 15 Organic peroxides  | Not applicable              | -            | -           | -  | Gas (GHS definition)  |
| 16 Corrosive to metals  | Classification not possible | -            | -           | -  | UNRTDG Subsidiary risks Class: 8. Test methods applicable to gaseous substances are not available |

## Health Hazards

| Hazard class                              | Classification  | symbol              | signal word | hazard statement              | Rational for the classification  |
|---|---|---------------------|-------------|-------------------------------|--|
| 1 Acute toxicity (oral)                   | Not applicable  | -                   | -           | -                             | Gas (GHS definition)   |
| 1 Acute toxicity (dermal)                 | Not applicable  | -                   | -           | -                             | Gas (GHS definition)   |
| 1 Acute toxicity (inhalation: gas)        | Category 2  | Skin and crossbones | Danger      | Fatal if inhaled              | It was considered as Category 2 based on the description that the rat lethal concentration in 4-hour exposure is 300ppm (ACGIH 7th, 2001).                     |
| 1 Acute toxicity (inhalation: dust, mist) | Not applicable  | -                   | -           | -                             | Gas (GHS definition)   |
| 1 Acute toxicity (inhalation: dust, mist) | Not applicable  | -                   | -           | -                             | Gas (GHS definition)   |
| 2 Skin corrosion / irritation             | Category 2  | Exclamation mark    | Warning     | Causes skin irritation        | It was set as Category 2 from description that the skin was stimulated (ICSC (J), (2000), HSDB (2005), HSFS (1999), SITTIG (4th, 2002)).                       |
| 3 Serious eye damage / eye irritation     | Category 2A-2B  | Exclamation mark    | Warning     | Causes serious eye irritation | We classified it as Category 2A-2B based on the descriptions that it stimulated the eyes (ICSC (J), (2000), HSDB (2005), HSFS (1999), and SITTIG (4th, 2002)). |
| 4 Respiratory/skin sensitization          | respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible | -                   | -           | -                             | No data available  |
| 5 Germ cell mutagenicity                  | Classification not possible   | -                   | -           | -                             | No data available  |
| 6 Carcinogenicity                         | Classification not possible   | -                   | -           | -                             | No data available  |

|    |  |  |               |                 |  |  |
|----|--|--|---------------|-----------------|--|--|
| 7  | Toxic to reproduction  | Category 2   | Health hazard | Warning         | Suspected of damaging fertility or the unborn child  | There is a description in HSDB (2009) that the sperm loss in vas deferens was observed in the inhalation exposure test for 90 days using rats. And there is a description that embryonic mortality and malformation were observed by the dose in which general toxicity is not observed in dam animals in inhalation exposure tests using pregnant rats. However, only the descriptions that the denaturation of a testis in single inhalation exposure using rats and the reduction of spermatogenesis in repetitive inhalation exposure were shown in ACGIH (7th, 2001) as information on Priority 1. Therefore, it was not able to be judged that there was specific reproductive toxicity from the information on Priority 1. Therefore, it was judged that there was not enough evidence to be classified into 1B, and it was classified into Category 2. |
| 8  | Specific target organs/systemic toxicity following single exposure   | Category 1 (testes, kidneys, liver, thymus gland); Category 2 (respiratory organs) | Health hazard | Danger; Warning | Causes damage to organs (testes, kidneys, liver, thymus gland); May cause damage to organs (respiratory) | It was judged as Category 1 (spermary, kidney, liver, thymus) because of a description that damage to livers, kidneys, spermary, and thymi was confirmed through an inhalation exposure test using rats at concentration within the guidance value of Category 1 (ACGIH (7th, 2001)). Moreover, it was judged as Category 2 (respiratory tracts) because of descriptions that airways can be stimulated and pulmonary edemas may be caused (ICSC(J) (2000), HSFS (1999), and SITTIG (4th, 2002)).  |
| 9  | Specific target organs/systemic toxicity following repeated exposure | Category 1 (testes, kidneys, blood)  | Health hazard | Danger          | Causes damage to organs (testes, kidneys, blood) through prolonged or repeated                           | Based on the description that the influence on the teste, the renal function, and blood was observed with the concentration of the guidance value range of Category 1 in a 90-days inhalation exposure test using the rat and dog (ACGIH (7th, 2001)), it was classified into Category 1 (teste, kidney, blood).   |
| 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.              |