

## GHS Classification

**ID724**

**Acetic acid**

**CAS 64-19-7**

Date Classified: Aug. 18, 2006 (Environmental Hazards: Feb. 10, 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	Category 3	Flame	Warning	Flammable liquid and vapour	It was classified as Category 3 (GHS standards: flash point being 23 degC or more and 60 degC or less) as flash point being 39 degC (closed cup).
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	-	-	-	Flash point: 427-463degC (ICSC (J), 1997; Chapman, 2005)
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because of UNRTDG Class: 8 Subsidiary risks Class: 3
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	-	-	-	Organic compounds containing oxygen (but not chlorine and fluorine) chemically bonded only to carbon and hydrogen (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Although it is the UNRTDG class 8 (subsidiary risks class 3), it is thought that this is based on skin corrosiveness. Since there is no data about corrosion behavior, it cannot be classified.

## Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 5	-	Warning	May be harmful if swallowed	It was set as Category 5 from lower value LD50=3310 mg/kg (PATTY (5th, 2001)) of two rat LD50 values (3310 and 3530 mg/kg).
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	It was set as Category 4 from rabbit LD50 = 1060mg/kg (PATTY (5th, 2001)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Not classified	-	-	-	The saturated vapor pressure concentration of acetates is 20800ppm, and it is presumed that the inhalation test is done in the state of steam. It was classified as out of Category based on rat LCLo = 16000ppm (PATTY (5th, 2001)).
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	The saturated vapor pressures concentrations pressure of acetates is 20800ppm, and it is presumed that the inhalation study is done in the state of steam. Therefore, there is no data about mists, it cannot classify.
2 Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Skin necrosis and burn (PATTY (5th, 2001)) and corrosion (IUCLID (2004))were observed with application of acetic acid at 50% or more of concentration in animal experiments. Also based on EU-Annex 1:C;R35, etc. it was classified as Category 1A-1C.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Liquid glacial acetate caused destructive damages to the eye in the rabbit (PATTY (5th, 2001)), and 16% of acetate caused permanent corneal injuries (IUCLID (2004)), paralysis and muddiness of the cornea were remained eternally in the accident in people (PATTY (5th, 2001)). Based on the above statement, it was set to Category 1.
4 Respiratory/skin sensitization	Respiratory sensitization: Category 1; Skin sensitization: Classification not possible	(Respiratory sensitization)Health hazard; (Skin sensitization)-	(Respiratory sensitization)Danger; (Skin sensitization)-	(Respiratory sensitization)May cause allergy or asthma symptoms or breathing difficulties if inhaled; (Skin sensitization)-	Respiratory sensitization: Based on a statement of four case reports that respiratory hypersensitivity, such as bronchial asthmas, was induced by human inhalation exposure, and a fact that occupational asthma has been reported( PATTY (5th, 2001).), it was referred to as Category 1. Skin sensitization:No data
5 Germ cell mutagenicity	Classification not possible	-	-	-	Since there was no data other than the negative result in an in vitro mutagenicity test, we presupposed that we could not categorize it according to the technical guideline.
6 Carcinogenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data

8	Specific target organs/systemic toxicity following single exposure	Category 1 (blood system); Category 2 (respiratory organs)	Health hazard	Danger	Cause damage to organs (blood system); May cause damage to organs (respiratory organs)	In humans, it is classified into Category 1 (blood) based on the statement that influence of blood such as disseminated intravascular coagulations disorders, severe hemolysis (PATTY (5th, 2001)). Moreover, the stimulative statement to the nose, upper respiratory tract, and lung according to inhalation exposure at humans (PATTY (5th, 2001)), and "humans' inhalation of vapor may occur to respiratory tract corrosiveness and pulmonary oedemas" (ICSC (J) (1997)). So it is classified into Category 2 (respiratory systems).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Enough animal information is not given about the influence after repeated exposure. Although the example is reported in humans (repeated exposure), it was judged that it could not classify taken into consideration the mild symptoms as a case or lack of dignity as a proof.
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 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 24-hour EC50=47mg/L of Crustacea (Daphnia magna), and others (IUCLID, 2000).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since rapidly degrading (BOD: 74% (existing chemical safety inspections data)), and less bio-accumulative (log Kow=-0.17 (PHYSPROP Database, 2005)).