

## GHS Classification

**ID1128**

**Ammonium hydroxide**

**CAS 1336-21-6**

Date Classified: Oct. 23, 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	-	-	-	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 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	-	-	-	Inorganic compounds containing oxygen bonded only to hydrogen (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
16 Corrosive to metals	Category 1	Corrosion	Warning	May be corrosive to metals	Although the examination data of metal caustic was not found, 8 which indicates caustic is given to UNRTDG corresponding to UNRTDG No. (2672). Since ICSC (J) (1995) had a description "it corrodes many metals," it was set as Category 1.

## 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	The substance was classified as Category 4, because the LD50 in rats was 350mg/kg in RTECS (1997). [Note] Although aqueous ammonia (ammonium hydroxide) is aqueous solutions of ammonia (NH <sub>3</sub> ), ammonia is highly volatile. Thus refer to the GHS classification results of ammonia (IDNo.0564, CAS No.7664-41-7).
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	Caustic is indicated in the affect of the humans (SITTIG (4th, 2002), DHP (13th, 2002), ICSC (J) (1995), and EU-Annex I (Access on Jun.2005)). Since the examination data of the animal used as the index for further categorizing was not found, it was set as Category 1A-1C.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	The causticity is indicated in the examination data of the rabbit (RTECS (1997) and HSDB (2003)), and in effect of the human (SITTIG (4th, 2002), DHP (13th, 2002), ICSC (J) (1995)). So it was classified into 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)	Health hazard	Warning	May cause damage to organs (respiratory)	The substance was classified as Category 2 (respiratory system) based on a report in ICSC (J) (1995), a Priority 2 document, which describes the effects after a short-time exposure in humans as "airway corrosivity properties, and laryngeal edema, pneumonia, etc, when it is inhaled at a higher concentration vapor." There are also reports of pulmonary edema after inhalation exposure in the Priority 2 documents, SITTIG (4th, 2002), DHP (13th, 2002) and RTECS (1997).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (respiratory organs)	Health hazard	Warning	May cause damage to organs (respiratory organs) through prolonged or repeated exposure	Since there is description that "lungs will be risked in repetitive exposure of steam or an aerosol" as effect to humans of repetitive exposure (ICSC (J)(1995) of Priority 2 document), it was classified into Category 2 (respiratory systems). There is description that "chronic bronchitis is occurred by low-concentration repeated exposure." ,too (SITTIG (4th, 2002) of Priority 2 document).
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 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 48-hour LC50=0.66mg/L of Crustacea (Daphnia magna) (HSDB, 2004).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, and behavior in water and bioaccumulative potential are unknown.