

## GHS Classification

**ID749**

**Cyanamide**

**CAS 420-04-2**

Date Classified: Feb. 20, 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	-	-	-	Flash point of liquid articles: none
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	Classification not possible due to lack of data on liquid articles, though the substance contains aminonitrile groups as chemical groups with self-reactive properties present.
9 Pyrophoric liquids	Not classified	-	-	-	A liquid product is not flammable nor ignitability.
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Since the liquid (liquid product) examining method has not been established, it cannot be classified.
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 no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Classification not possible	-	-	-	No data available on corrosion to metals

## Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3 (active ingredient)	Skull and crossbones	Danger	Toxic if swallowed	It is in Category 5, because it is over LD50= 2415mg/kg (Agricultural-Chemicals abstracts (2002)) in the male rat examination, and this is over 2000mg/kg (Category 4). Moreover, it is thought that a pure forms (active ingredient) is in Category 3 by being estimated from this value.
1 Acute toxicity (dermal)	Classification not possible (active ingredient)	-	-	-	Death is not observed at 2000mg/kg (Category 4)(Agricultural-Chemicals abstracts (2002)) using rats, it is outside of Category. Since death is not seen and it cannot be estimated, an active ingredient cannot be classified.
1 Acute toxicity (inhalation: gas)	Classification not possible (active ingredient)	-	-	-	Solutions is outside of classification since it is the liquid based on GHS definition. Since there is no data about active ingredient, it cannot be classified.
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	There is a rat dust inhalation test result (Agricultural-Chemicals abstracts (2002)), that contains 57% of calcium cyanamide. And it is not a test result of cyanamide active ingredient, it cannot be classified.
2 Skin corrosion / irritation	Not classified (about 10% liquid product)	-	-	-	Based on the test result of rabbit examination (solution with 13.33% purity), irritation was not observed(Agricultural-Chemicals abstracts (2002)), and it was classified as out of Category.
3 Serious eye damage / eye irritation	Not classified (about 10% liquid product)	-	-	-	It was carried out the outside of Category by the report that cyanamide 13.33% solution was judged not to indicate irritation to eye of rabbit (Agricultural-Chemicals abstracts (2002)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1 (about 10% liquid product)	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Since there is no information on respiratory sensitization, it cannot be classified. Skin sensitization was set to Category 1 because it was identified positive against the liquid solution of 13.34% in the test result with guinea pigs(Agricultural Chemicals abstracts (2002)).

5	Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	It was judged to have clastogenic activity for the in vivo test and mammals cultivation cells (Agricemical Abstracts (2002)), therefore we classified it as Category 2.
6	Carcinogenicity	Classification not possible	-	-	-	Since there is no information of animal examination data and an evaluation organization, it cannot classify.
7	Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data on tests to reproduction and teratogenicity tests.
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	No data available.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Although the oral test result of a rat (Agricultural Chemicals abstracts (2002)) is available, since given dose etc. is unknown, it cannot be classified.
10	Aspiration hazard	Classification not possible	-	-	-	No data available on chemical pneumonia and a dynamic viscosity

### 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 48-hour EC50=33.5mg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2002).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and rapid degradability is unknown, though supposed less bio-accumulative (log Kow=-0.82 (PHYSPROP Database, 2005)).