

GHS Classification

ID480

CAS 12125-01-8

Physical Hazards

Ammonium fluoride

Date Classified: Aug. 22, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "solid" according to GHS definition
6 Flammable liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
7 Flammable solids	Not classified	—	—	—	Non-flammable (ICSC, 2004)
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Non-flammable (ICSC, 2004)
11 Self-heating substances and mixtures	Not classified	—	—	—	Non-flammable (ICSC, 2004)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 45.3g/100mL (25degC), ICSC (2004))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not classified	—	—	—	No data available, though being inorganic compounds containing fluorine. Classified into Division 6.1 (UN#2025) (UN Recommendations on the Transport of Dangerous Goods).
15 Organic peroxides	Not applicable	—	—	—	Not organic compounds
16 Corrosive to metals	Classification not possible	—	—	—	Test methods applicable to solid substances which sublime and do not melt upon heating are not available. Ammonium fluoride acts on metals according to ICSC (2004).

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Classification not possible	—	—	—	No data available
1 Acute toxicity (dermal)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Classification not possible	—	—	—	Insufficient data available, though an epidemiological study provides evidence of "redness" in humans (ICSC (2004)) and thus the substance is considered to possess a potential for skin irritation.
3 Serious eye damage / eye irritation	Classification not possible	—	—	—	Insufficient data available, though some epidemiological studies provide evidence of "redness and pain" (ICSC (2004)) and "irritation in the human eye" (HSDB (2006)), suggesting a potential for eye irritation.
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) —	Respiratory sensitization: No data available Skin sensitization: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	No data available As for the germ cell mutagenicity of fluorides, refer to "ID479, Sodium Fluoride, CAS: 7681-49-4."
6 Carcinogenicity	Not classified	—	—	—	Due to the fact that the substance is classified as Category A4 (Fluorides) by ACGIH (2001) and Category 3 (Fluorides; inorganic, used in drinking-water) by IARC (1987).
7 Toxic to reproduction	Classification not possible	—	—	—	Insufficient data available. As for the reproductive toxicity of fluorides, refer to "ID479, Sodium Fluoride, CAS: 7681-49-4."
8 Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	(Respiratory tract irritation) May cause respiratory irritation	According to ICSC card, "the substance irritates the eye, skin and respiratory tract" (ICSC (J) (2004)). Acute (oral) toxicity of fluoride compounds manifests in humans as "nausea, vomiting, abdominal pain, diarrhea, fatigue, lethargy, coma, spasm and heart failure, leading eventually to death" (CaPSAR (1993)).
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (bone, tooth)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (bone, tooth)	According to ICSC card, "the substance has effects on bones and teeth, and may cause fluorosis" (ICSC (J) (2004)).
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 96 hours LC50=69.6mg/L of the crustacea (Glass Shrimp) (ECETOC TR91, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Since acute toxicity was Category 3 and an underwater action and bio-accumulation were unknown, it was classified into Category 3.