

GHS Classification

ID1401

Ethene

CAS 74-85-1

Date Classified: Mar. 23, 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	Category 1	-	Danger	Extremely flammable gas	Ignitable when in a mixture of 13% or less by volume in air. UNRTDG Class: 2.1
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not classified	-	-	-	UNRTDG Class: 2.1
5 Gases under pressure	Compressed gas or Refrigerated liquefied gas	Gas cylinder	Warning	Contains gas under pressure; may explode if heated Contains refrigerated gas; may cause cryogenic burns or injuries	According to its physical state when packed, classified in; Compressed gas: entirely gaseous at -50degC or, Refrigerated liquefied gas: partially liquid because of its low temperature
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	Not classified	-	-	-	UNRTDG Class: 2.1

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)	Not classified	-	-	-	It was judged as the outside of Category. Based on the description that effect was not observed by 500000ppm 4-hour exposure in rat (ACGIH, 7th (2001)), and that effect was not observed by 57000ppm 4-hour exposure and 10000ppm 5-hour exposure in rat (IARC 60 (1994)).
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Gas (GHS definition)
2 Skin corrosion / irritation	Not classified	-	-	-	From the description that the skin is not stimulated in PATTY (4th, 1994), it carried out the outside of category.
3 Serious eye damage / eye irritation	Not classified	-	-	-	From description that the eye is not stimulated (PATTY (4th, 1994)), it was set as the outside of Category.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Not classified	-	-	-	There was a negative result (IARC 60, 1994) by the micronucleus test which used the bone marrow of the rat and mouse, which is an in vivo mutagenicity test using a somatic. So it is classified as the out of the Category.
6 Carcinogenicity	Not classified	-	-	-	Since it is classified into a group 3 according to IARC and classified into A4 according to ACGIH, it considered as the outside of Category.
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic effects)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	It is used as an anesthetic in the humans, and after the discontinuation of exposure, it was recovered promptly and impact on others was not observed (ACGIH (7th, 2001) and PATTY (4th, 1994)), it was observed as Category 3 (anesthetic actions).
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	Since in the rat exposure test for 90 days (ACGIH 7th, 2001, DFGOT vol.10, 1998 and IARC 60, 1994) and the rat exposure test during two years (PATTY 4th, 1994 and IARC 60, 1994), a toxic effect was not observed at the high concentrations exceeding the range of guidance value in Category 2, either, it was carried out the outside of Category.
10	Aspiration hazard	Not applicable	-	-	-	Gas (GHS definition)

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 72-hour EC50=72mg/L of algae (Selenastrum) (SIDS, 1998).
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=1.13 (PHYSPROP Database, 2005)).