GHS Classification

ID692 **ozone**

CAS 10028-15-6 Date Classified: Apr. 20, 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	–	–	–	Gas (GHS definition)
2	Flammable gases	Not classified	–	–	–	Structurally, it doesn't have the stable flammable range at 20°C and 101.3kPa.
3	Flammable aerosols	Not applicable	–	–	–	Not aerosol products
4	Oxidizing gases	Category 1	Flame over circle	Danger	May cause or intensify fire; oxidizer	The coefficient of oxygen equivalency (oxygen atom 1.0) times the volume percentage(100vol%) is 100, which is over 21 (the reference value of ISO-10156).
5	Gases under pressure	Classification not possible	–	–	–	Classification not possible because of an unidentified state when transported
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	Classification not possible	–	–	–	Test methods applicable to gas substances are not available

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)	Category 1	Skull and crossbones	Danger	Falat if inhaled	It was considered as Category 1 based on rat LC50 value of 4.8ppm (ACGIH (2001).)
1	Acute toxicity (inhalation:	Not applicable	–	–	–	Gas (GHS definition)
1	Acute toxicity (inhalation: dust, mist)	Not applicable	–	–	–	Gas (GHS definition)
2	Skin corrosion / irritation	Classification not possible	–	–	–	No data available
3	Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Based on that eye irritation was seen in humans (PATTY (5th, 2001), it was set as Category 2A-2B.
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	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)	Based on the positive result (EHC 7 (1979)) in the Chinese hamster somatic cell in vivo mutagenicity test (chromosomal aberration test), we classified it as Category 2.
6	Carcinogenicity	Not classified	–	–	–	ACGIH A4
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the undorn child	Since although there was no descriptions on clear maternal toxicity in pregnant rat and mouse administration test, there was a description of increase lethality of fetus and newborns (EHC7 (1979), DFGOTvol10 (1998)), it was classified into Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory)	Health hazard	Danger	Cause damage to organs (respiratory)	There is the pulmonary congestion in the test using rat, and there is the pulmonary congestion in weld workers (ACGIH(2001)), and there is the increase of the resistance of respiratory tract in the knowledge of human (DFGOT vol.10 (1998)), and it is classified into Category 1 (respiratory tract).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (lung, bronchus)	Health hazard	Danger	Causes damage to organs (lung, bronchus) through prolonged or repeated exposure	It was classified to as Category 1 (lungs, bronchus) with reference to the guidance value and according to that to a rat and a mouse by carrying out inhalation exposure of the 0.1 to 1 ppm for one year or more, bronchitis, the collagen deposition to lungs and mild pulmonary fibrosis being observed (ACGIH (2001), DFGOTvol10 (1998))
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 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 96-hour LC50=0.0093mg/L of fishes (Rainbow trout) (ECETOC TR91, 2003).
11	Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Rapidly degrading in water.