

GHS Classification

ID794

Benzoyl peroxide

CAS 94-36-0

Date Classified: Mar. 23, 2006 (Environmental Hazards: Feb. 10, 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 classified	-	-	-	UNRTDG No. 3102, 3104, 3106, 3107, 3108, 3109, Class: 5.2
2 Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Not classified	-	-	-	Not classified because of UNRTDG Class5.2(UN No.3102, 3104, 3106, 3107, 3108, 3109)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Classified in organic peroxides
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Flash point: 80degC (ICSC (J), 2002)
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Since the melting points are 103 degC - 105 degC (ICSCJ, 2002) and 140 degC or less, the test specified by GHS is inapplicable.
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	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Organic compounds containing oxygen and the oxygen is chemically bonded only to carbon (but not to other elements).
15 Organic peroxides	Type B, Type C, Type D, Type E, Type F	Exploding bomb and Flame	Danger	Heating may cause a fire or explosion	It is subdivided to type B to F depending on the content in products or etc. (Refer to the paragraph of the UNRTDG)
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	-	-	-	SPECIES: Rat ENDPOINT: LD50 VALUE: 7710 mg/kg REFERENCE SOURCE: SIDS (2002)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Not classified	-	-	-	Not classified because of "SPECIES: Rat; ENDPOINT: LC50>19.0mg/L" (SIDS,2002)
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	There is data of "slight irritation" or "having no irritation" and SIDS (2002) concluded "it is a very mild skin irritation substance", therefore, it was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	The irritation is acknowledged in rabbits 24,48 and 72 hours after the exposures (SIDS, (2002), however the degree of irritation differs depending on the tests or the test methods. Therefore, it was set as Category 2A-2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(Respiratory sensitization)-; (Skin sensitization)Health hazard	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: Since we have no data, we could not classify. Skin sensitization: Skin sensitization is acknowledged in the human maximization test results and in the epidemiological research for occupational exposure (SIDS, 2002), moreover, it is published as a surface sensitization in the Japanese Society of Occupational Allergy list. Therefore, we classified it as Category 1.
5 Germ cell mutagenicity	Not classified	-	-	-	Since it gave negative (SIDS, 2002) in the dominant lethality tests by mice and micronucleus tests using the mouse erythrocytes, we classified it as Out Of Category.
6 Carcinogenicity	Not classified	-	-	-	Since it had classified into the class 3 according to IARC, it carried out the outside of Category.

7	Toxic to reproduction	Not classified	-	-	-	It is observed that reduction of the weight and degenerative effects of male rats genitalia. These should be considered as organ damage, of general toxicity caused in repeated administration in extensive dose (1000mg/kg/day), occurred in the male genitalia, and no change has been observed in the items related to reproductive toxicity (mating rate and pregnancy rate in female rats). Moreover, although there are cases of high birth rate of runts and significant reduction in weight gain of offsprings under condition of no maternal toxicity (SIDS,2002), their toxicological significance would be low. Therefore, it was placed out of classification.
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Classified as Category 3 (respiratory irritant), based on the information that it has irritation to nose and throat in humans (ACGIH, 2001).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Classification not possible due to lack of data
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 EC50=0.07mg/L of Crustacea (Daphnia magna) (SIDS, 2004).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since rapidly degrading (BOD: 84% (existing chemical safety inspections data)), and less bio-accumulative (log Kow=3.46 (PHYSPROP Database, 2005)).