GHS Classification

ID459 Nonylphenol

CAS 25154-52-3 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	—	—	—	Containing no chemical groups with explosive properties
2	Flammable gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
3	Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4	Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5	Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6	Flammable liquids	Not classified	—	—	—	The flash point is 140degC (c.c.) (ICSC (2003))
7	Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8	Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9	Pyrophoric liquids	Not classified	—	—	—	Not pyrophoric when in contact with air at ordinary temperatures (flash point: 370degC (ICSC, 2003)).
10	Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11	Self-heating substances and mixtures	Classification not possible	—	—	—	Test methods applicable to liquid substances are not available.
12	Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	—	—	—	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13	Oxidizing liquids	Not applicable	—	—	—	Organic compounds containing oxygen, with the oxygen bound to carbon and hydrogen (but not to other elements)
14	Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15	Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16	Corrosive to metals	Classification not possible	—	—	—	No data available

Health Hazards

Hazard class		Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Based on the LD50 value of 851mg/kg calculated from the testing data of rat LD50 (oral route) of 1,300mg/kg, 2,462mg/kg (CERI-NITE Hazard Assessment No.1 (2004)), 580mg/kg and 1,620mg/kg (CERI Hazard Data 96-44 (1998)).
1	Acute toxicity (dermal)	Category 5	—	Warning	May be harmful in contact with skin	Based on the rat LD50 (dermal route) value of 2,031mg/kg representing the lower of the two fixed values of the testing data, 2,140mg/kg (CERI Hazard Data 96-44 (1998)), >2,000mg/kg (CERI-NITE Hazard Assessment No.1 (2004)) and 2,031mg/kg (EU-RAR No.10 (2002)).
1	Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1	Acute toxicity (inhalation:	Classification not possible	—	—	—	No data available
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2	Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the description in the report on rabbit skin irritation tests (CERI-NITE Hazard Assessment No.1 (2004)): "Prolonged exposure to nonylphenol produces corrosive effects on the skin." Also based on the description in EU-RAR No.10 (2002): "Based on the results obtained in two studies, it is reasonable to consider nonylphenol to be corrosive on contact with skin." Although classified into Category 1A-1C, the substance should be placed in Category 1A from the viewpoint of safety.
3	Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Based on the description in CERI-NITE Hazard Assessment No.1 (2004): "Causes moderate to severe eye irritation." Also based on the description in EU-RAR No.10 (2002): "Nonylphenol is severely irritating to the eye, inducing corneal opacities which do not fully clear up during the 21-day observation period." These results indicate that nonylphenol is a "severe eye irritant."
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Not classified	(Respiratory sensitization)— (Skin sensitization)—	(Respiratory sensitization)— (Skin sensitization)—	(Respiratory sensitization)— (Skin sensitization)—	Respiratory sensitization: No data available Skin sensitization: Based on the description in CERI-NITE Hazard Assessment No.1 (2004): "Guinea pig Maximization tests show no indication of sensitization." Also based on the description in EU-RAR No.10 (2002): "The results of several guinea pig Maximization tests suggest that nonylphenol does not have skin sensitizing potential."
5	Germ cell mutagenicity	Not classified	—	—	—	Based on the absence of data on multi-generation mutagenicity tests and germ cell mutagenicity tests in vivo, and negative data on somatic cell mutagenicity tests in vivo (micronucleus tests), described in EU-RAR No.10 (2002).
6	Carcinogenicity	Classification not possible	—	—	—	No data available
7	Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the evidence of adverse effects on pups (including suppressed body weight gain, reduced food consumption and increased uterus weight) observed at non-maternally toxic doses in rat reproductive toxicity studies and 3-generation reproductive toxicity studies, described in CERI-NITE Hazard Assessment No.1 (2004).
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	—	—	—	Insufficient data available

9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (kidneys)	Based on the evidence from animal studies including "renal tubular epithelial degeneration and renal tubular dilatation" (CERI-NITE Hazard Assessment No.1 (2004)). The effects were observed at dosing levels within the guidance value ranges for Category 2.
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 96 hours EC50=0.0127mg/L of the crustacea (Amphipod) (CERI/NITE Hazard Assessment Report, 2004).
11	Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Although acute toxicity is Category 1 and bio-accumulation is low (BCF=330(Existing Chemical Safety Inspections Data,)), since there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), it was classified into Category 1.