

GHS Classification

ID345

CAS 25155-30-0

Physical Hazards

Sodium dodecylbenzenesulphonate (C12)

Date Classified: Oct. 23, 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, 1999)
8 Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though being sulfonyls, containing chemical groups with self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Non-flammable (ICSC, 1999)
11 Self-heating substances and mixtures	Not classified	—	—	—	Non-flammable (ICSC, 1999)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (used as laundry detergents (CERI-NITE Hazard Assessment, 2006))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen bound to the elements other than carbon and hydrogen
15 Organic peroxides	Not applicable	—	—	—	Not organic compounds
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)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Based on the LD50 value of 438mg/kg calculated from the testing data of rat LD50 (oral route) of 438mg/kg (RTECS (2006)), 500mg/kg and 2,000mg/kg (IUCILID (2000)).
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	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in the report on rabbit skin irritation tests (24 hour application) (RTECS (2006)): "Causes moderate irritation." Also based on the description in the report on rabbit skin irritation tests performed in accordance with OECD TG 404 (IUCILID (2000)): "Irritating to the skin." Although the results are not those of 4 hour application, the substance is considered to be a moderate irritant and classified into Category 2.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the description in the report on rabbit eye irritation tests (RTECS (2006)): "24 hour application of 250microg induced severe irritation reactions." "1% solution produced severe irritation." Also based on the description in the report on rabbit eye irritation tests performed in accordance with OECD TG 405 (IUCILID (2000)): "Irritating to the eye." The substance is thus considered a severe eye irritant.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Category 1	(Respiratory sensitization) — (Skin sensitization) Exclamation mark	(Respiratory sensitization) — (Skin sensitization) Warning	(Respiratory sensitization) — (Skin sensitization) May cause an allergic skin reaction	Respiratory sensitization: No data available Skin sensitization: Based on the description in the report on guinea pig skin sensitization tests (CERI Hazard Data 2001-20 (2002) and CERI-NITE Hazard Assessment No.5 (2004)): "Skin sensitization: positive" (linear alkylbenzenesulfonate and its salts (the carbon chain length unknown); No data available on sodium dodecylbenzenesulphonate per se).
5 Germ cell mutagenicity	Classification not possible	—	—	—	Classification not possible due to the insufficiency of data (no definite data are available regarding sodium dodecylbenzenesulphonate per se). As for linear alkylbenzene sulphonate (LAS) and its salts [carbon chain lengths of 10-14 and their mixtures], no data are available on germ cell mutagenicity tests in vivo, whereas multi-generation mutagenicity tests (dominant lethal tests), somatic cell mutagenicity tests in vivo (micronucleus tests, chromosome aberration tests) and Ames assay gave negative results, described in NTP DB (Access on June, 2006), CERI-NITE Hazard Assessment No.5 (2005) and EHC 169 (1996).
6 Carcinogenicity	Classification not possible	—	—	—	Classification not possible based on expert judgment in the absence of existing classification together with the absence of definite data on sodium dodecylbenzenesulphonate per se. CERI-NITE Hazard Assessment No.5 (2005) presents some data regarding carcinogenicity studies on linear alkylbenzene sulphonate (LAS) and its salts [carbon chain lengths of 10-14 and their mixtures].
7 Toxic to reproduction	Classification not possible	—	—	—	Classification not possible due to the insufficiency of data (no definite data are available regarding sodium dodecylbenzenesulphonate per se). As for linear alkylbenzene sulphonate (LAS) and its salts [carbon chain lengths of 10-14 and their mixtures], there was no evidence of adverse effects on the parental animals and the offspring observed in oral studies, whereas decreased fertility and increased incidence of malformation in the offspring were observed at doses inducing parental toxicity in dermal studies, described in CERI-NITE Hazard Assessment No.5 (2005) and EHC 169 (1996).
8 Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	(Respiratory tract irritation) May cause respiratory irritation	Based on the description in ICSC (J) (1997): "Causes respiratory irritation." Note: As for linear alkylbenzene sulphonate (LAS) and its salts [carbon chain lengths of 10-14 and their mixtures], "clinical symptoms include confusion, vomiting, pharyngeal and oral pains, and the tendency of blood pressure to decrease" (NITE Initial Risk Assessment No.5 (2005)).

9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Classification not possible due to the fact that the only available data are those for mixtures of C10-14.
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=0.9mg/L of the blue algae (Microcystis) (EHC169, 1996).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since there was rapidly degrading (the decomposition of p-n-dodecylbenzenesulfonic acid sodium salt by BOD: 73% (Existing Chemical Safety Inspections Data)) and the bio-accumulation was low (log Kow=1.96(PHYSROP Database, 2005)), it was classified into Not classified.