

## GHS Classification

**ID457**

**N-Nitrosodiphenylamine**

**CAS 86-30-6**

Date Classified: Jul. 24, 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 classified	—	—	—	Not classified as "Explosives" with its oxygen budget calculated at -218, though being a nitroso compound containing 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	Classification not possible	—	—	—	Classification not possible due to lack of data, though classified as "flammable" by ICSC (2003)
8 Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though being a nitroso compound containing chemical groups with explosive properties and decomposition energy of 0.65kJ/g at temperatures of 300-500degC (Bretherick (J) (5th, 1998)).
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Classification not possible	—	—	—	No data available
11 Self-heating substances and mixtures	Classification not possible	—	—	—	Test methods applicable to liquid substances are not available (melting point: 66.5degC (ICSC, 2003), test temperature: 140degC).
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	—	—	—	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 elements other than carbon and hydrogen
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
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 1,650mg/kg calculated from the testing data of rat LD50 (oral route) of 1,650mg/kg (CERI Hazard Data 2001-32 (2002)), 3,000mg/kg (ATSDR (1993)) and 1,825mg/kg (MOE Risk Assessment vol. 3 (2004)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the rabbit LD50 (dermal route) of 7,940mg/kg (CERI Hazard Data 2001-32 (2002)).
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
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 animal skin irritation tests (some details missing such as exposure duration) (ATSDR (1993)): "The substance produces irritation of the skin" (though the severity of the effects is unknown). Although classified as Category 2-3, the substance should be placed in Category 2 from the viewpoint of safety.
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the description in the report on rabbit eye irritation tests (CERI Hazard Data 2001-32 (2002)): "mild irritation."
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) —	Respiratory sensitization: No data available Skin sensitization: No data available
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 ATSDR (1993), PATTY (4th, 1999), CERI Hazard Data 2001-32 (2002) and NTP DB (Access on Feb, 2006).
6 Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer	Due to the fact that the substance is classified as Category B2 by EPA (1993).
7 Toxic to reproduction	Classification not possible	—	—	—	Insufficient data available
8 Specific target organs/systemic toxicity following single exposure	Category 2 (systemic toxicity)	Health hazard	Warning	Causes damage to organs (systemic toxicity)	Based on the evidence from animal studies including "decreased food consumption, reduced locomotor activity, debility, tremor and collapse" (CERI Hazard Data 2001-32 (2002)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2.
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (respiratory organs, liver, kidneys)	Health hazard	Warning	Causes damage to organs through prolonged or repeated exposure (respiratory organs, liver, kidneys)	Based on the evidence from animal studies including "bronchial pneumonia and pulmonary emphysema, fatty/granular degeneration of the liver, cloudy swelling of the kidney" (MOE Risk Assessment vol. 4 (2005)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2 (respiratory organs, liver, kidneys).

10	Aspiration hazard	Classification not possible	-	-	-	No data available
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### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 96 hours LC50=5800microg/L of the fish (Bluegill) (MOE Risk Assessment vol. 2, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Although acute toxicity was Category 2 and the bio-accumulation potential was low (BCF=42(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 2.