GHS Classification

ID446 alpha,alpha,alpha-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine

CAS 1582-09-8 Date Classified: Dec. 18, 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	Classification not possible	—	—	—	Classification not possible due to lack of data on the kick-off temperature and decomposition energy, though the substance contains nitro groups with its oxygen budget calculated at −143.
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 according to ICSC (2004)
8	Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though the substance contains nitro groups with explosive properties
9	Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10	Pyrophoric solids	Classification not possible	—	—	—	Classification not possible due to lack of data
11	Self-heating substances and mixtures	Classification not possible	—	—	—	Test method applicable to liquid substances are not available (melting point: 47.2degC (Agricultural Chemical Registration Data), 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	—	—	—	Cannot be classified due to lack of data, though being organic compounds containing oxygen and fluorine (but not chlorine), with the 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	—	—	—	Classification not possible due to lack of data on the substances with melting points of <55degC (melting point: 47.2degC (Agricultural Chemical Registration Data)).

Health Hazards

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Category 5	—	Warning	May be harmful if swallowed	Based on the rat LD50 (oral route) value of 2,517mg/kg (Agricultural Chemical Registration Data (1989)).
1	Acute toxicity (dermal)	Not classified	—	—	—	Based on the rat LD50 (dermal route) value of >5,000mg/kg (Agricultural Chemical Registration Data (1989)).
1	Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a solid according to the GHS criteria 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	—	—	—	Classification cannot be determined, though the available rat inhalation study reported the LC50 value of >2.8mg/L (4 hours) (Agricultural Chemical Registration Data (1996)).
2	Skin corrosion / irritation	Category 3	—	Warning	Causes mild skin irritation	Based on the evidence of mild irritation, which were fully reversed within 14 days, observed in rabbit skin irritation tests (Agricultural Chemical Registration Data (1989)).
3	Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Based on the evidence of mild irritation of the eye, which persisted for up to day 7, observed in rabbit eye irritation tests (Agricultural Chemical Registration Data (1989)).
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 positive results in guinea pig skin sensitization tests employing the Buehler method (Agricultural Chemical Registration Data (1989)).
5	Germ cell mutagenicity	Not classified	—	—	—	Based on negative data in in vitro reverse mutation tests, in vitro chromosome aberration tests (Agricultural Chemical Registration Data (1989, 1997)) and in vivo micronucleus tests on mouse bone marrow cells (Agricultural Chemical Registration Data (1997)).
6	Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in rat and mouse carcinogenicity studies (Agricultural Chemical Registration Data (1989)).

7	Toxic to reproduction	Not classified	－	－	－	Based on no evidence of adverse effects on reproduction or offspring development observed in rat reproduction studies and rat/rabbit teratogenicity studies (Agricultural Chemical Registration Data (1989)).
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	－	－	－	In single dose toxicity studies, the test animals demonstrated "lacrimation," "salivation," "blepharoptosis," "convulsions" and "spastic gait" (Agricultural Chemical Registration Data (1989)) indicative of nervous system effects. However, it was decided not to use these findings for classification since the exposure doses exceeded the guidance value ranges for Category 2.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	－	－	－	Insufficient data available
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 LC50<=5microg/L of the fish (Atlantic Clupea pallasii) (MOE Risk Assessment vol. 2, 2003).
11	Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Since the acute toxicity was Category 1 and it had no rapidly degrading (the decomposition by BOD: 4% (Existing Chemicals Safety Check Data)), and it had the bio-accumulation (BCF=945 (Existing Chemicals Safety Check Data)), it was classified into Category 1.