

GHS Classification

ID292

CAS 533-74-4

Physical Hazards

2-Thioxo-3,5-dimethyltetrahydro-2H-1,3,5-thiadiazine; Dazomet

Date Classified: Nov. 20, 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	—	—	—	Classified into Division 6.1 (UN#2588 Pesticide, solid, toxic, n.o.s. (ICSC (2000))) (UN Recommendation on the Transport of Dangerous Goods).
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Classified into Division 6.1 (UN#2588 Pesticide, solid, toxic, n.o.s. (ICSC (2000))) (UN Recommendation on the Transport of Dangerous Goods).
11 Self-heating substances and mixtures	Not classified	—	—	—	Classified into Division 6.1 (UN#2588 Pesticide, solid, toxic, n.o.s. (ICSC (2000))) (UN Recommendation on the Transport of Dangerous Goods).
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). The substance decomposes in water or dilute acid, according to Merck (13th, 2001)
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not applicable	—	—	—	Organic compounds containing no oxygen, fluorine or chlorine
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 with melting point of >55degC are not available (melting point: 104–105degC, Agricultural Chemical Registration Data).

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 rat LD50 (oral route) value of 550mg/kg (Agricultural Chemical Registration Data (1990)).
1 Acute toxicity (dermal)	Category 5	—	Warning	May be harmful in contact with skin	Based on the rat LD50 (dermal route) value of 2,260mg/kg (Agricultural Chemical Registration Data (1990)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a 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)	Category 5	—	Warning	May be harmful if inhaled	Based on the rat LC50 (inhalation route) value of 7.29mg/L (Agricultural Chemical Registration Data (1990)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on no evidence of skin irritation observed in rabbit skin irritation studies (Agricultural Chemical Registration Data (1990)).
3 Serious eye damage / eye irritation	Not classified	—	—	—	Based on the evidence of very mild irritation (the highest mean Draize score of 0.6 by 72 hours), with effects fully resolving by 72 hours, observed in rabbit eye irritation studies (Agricultural Chemical Registration Data (1990)).
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 no evidence of skin sensitization observed in guinea pig skin sensitization tests using the Maximization method (Agricultural Chemical Registration Data (1990)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data on in vitro reverse mutagenicity tests, in vitro chromosome aberration tests and in vivo micronucleus tests on mouse bone marrow cells (Agricultural Chemical Registration Data (1990)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in 2-year (rats) and 18-month (mice) carcinogenicity studies, reported in Agricultural Chemical Registration Data (1990).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of increased incidence of postimplantation loss at doses causing an increase in body weight in parental animals observed in rabbit teratogenicity studies (Agricultural Chemical Registration Data (1990)). Since it cannot be concluded that the findings are secondary to parental toxicity, the substance is classified into Category 2.
8 Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	In rat single dose toxicity studies, clinical signs and symptoms including hyperventilation, lacrimation, salivation, reduced locomotor activity, and crouching position were reported (Agricultural Chemical Registration Data (1990)). These effects were observed at dosing levels within the guidance value ranges for Category 2.
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (liver)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (liver)	In rat repeated dose toxicity studies, evidence of fatty degeneration of hepatocytes associated with increased liver weight was found (Agricultural Chemical Registration Data (1990)). These 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 LC50=0.16ppm of the fish (Rainbow Trout) (AQUIRE, 2003).
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 (log Kow=1.4(PHYSPROP Database, 2005)), since there was no rapidly degrading (the decomposition by BOD: 4%(Existing Chemical Safety Inspections Data)), it was classified into Category 1.