

GHS Classification

ID1290

CAS 59669-26-0

Physical Hazards

dimethyl N,N'-[thiobis[(methylimino)carbonyloxy]]bis(thioimidoacetate)

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	Classification not possible	-	-	-	Classification not possible due to lack of data, though the substance contains N-O bonds as chemical groups with explosive properties present and has the oxygen balance calculated at -139.9, higher than -200 of the criteria.
2 Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Classification not possible	-	-	-	No data available
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	Classification not possible due to lack of data, though the substance contains N-O bonds as chemical groups with explosive or self-reactive properties present
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Classification not possible	-	-	-	No data available
11 Self-heating substances and mixtures	Classification not possible	-	-	-	No data available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	The chemical structure of the substance does not contain metals or metalloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	No data available
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 (Melting point: 172.6degC)

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skull and crossbones	Danger	Toxic if swallowed	We compared the LD50s in male rats (96.1mg/kg) and female rats (57.4mg/kg) in the oral administration test (Agricultural Chemical Registration Data). Based on the lower of these two values (LD50 =57.4mg/kg), the substance was classified as Category 4.
1 Acute toxicity (dermal)	Not classified	-	-	-	It was set as the outside of Category based on rat LD50 >6310mg/kg of male and females (Agricultural Chemical Registration Data) in the dermal administration test.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Not classified	-	-	-	Based on that male and female rat LC50 is >5.31mg/L in the inhalation exposure test of 4 hours, and any example of death is not acknowledged (Agricultural Chemical Registration Data). So it was set as the outside of Category
2 Skin corrosion / irritation	Not classified	-	-	-	In the skin irritation test using a rabbit, it carried out the outside of Category based on the statement that irritation is not admitted (Agricultural Chemical Registration Data).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Although corneal cloudings, conjunctiva dropsy, redness, and secretion were observed by the eye irritation tests using a rabbit, it disappeared after 7 days (Agricultural Chemical Registration Data). So it was set as Category 2B.
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: in the skin sensitivity test using a guinea pig, it carried out the outside of Category based on the statement (Agricultural Chemical Registration Data) with negativity.
5 Germ cell mutagenicity	Not classified	-	-	-	There is no result of human multi generation epidemiology, multi generation mutagenicity test, and germ cell in vivo mutagenicity test, and there is the description that it is negative in the somatic cell in vivo mutagenicity test (small core test using mouse erythrocytes) (Agricultural Chemical Registration Data). So it is classified as the out of the Category.
6 Carcinogenicity	Not classified	-	-	-	It carried out the outside of category based on the statement (Agricultural Chemical Registration Data) that there was no generating of the tumor relevant to dose in carcinogenicity tests of rats and mice.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the statement (Agricultural Chemical Registration Data) that weight reduction and survival rate decrease were seen in baby animals at a dose which general toxicity was observed in parent animals in the two-generation reproduction study in rats, it was set as Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	It was considered as Category 1 (nerve systems) based on the description (Agricultural Chemical Registration Data) that in a rat, at dose (20–228mg/kg) within the range of guidance value in Category 1, tremor, dacryorrhea, salivation, and piloerection were observed.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys)	Health hazard	Warning	May cause damage to organs (kidneys) through prolonged or repeated	Based on the description that toxicity except decrease in body weight gain was not observed, and increase in the kidney weight, water intake decreased and oliguria, which were considered to be the renal effects, in administration within the range of guidance value of Category 2 (30 mg/kg) in a rat (Agricultural Chemical Registration Data), it was classified into Category 2 (kidney).
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 48-hour EC50=0.027ppm of Crustacea (Daphnia magna) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=1.7 (PHYSPROP Database, 2005)).