GHS Classification

ID1245 **N,N-Dimethyl-1,2,3-trithian-5-amine**

CAS 31895-21-3 Date Classified: Oct. 23, 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 applicable	–	–	–	There are no chemical groups associated with explosive properties present in the molecules.
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	Not applicable	–	–	–	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
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	–	–	–	The test suitable for the solid of 140 degC or less of melting points is not established. (131.6 plus or minus 0.5 degC (Agricultural Chemical Registration Data) of melting points)
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 metaloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13	Oxidizing liquids	Not applicable	–	–	–	Solid (GHS definition)
14	Oxidizing solids	Not applicable	–	–	–	Organic compounds containing oxygen (but not chlorine and fluorine) and the oxygen is chemically bonded only to carbon and hydrogen (but not to other elements).
15	Organic peroxides	Not applicable	–	–	–	Organic compounds containing no –0–0– structure
16	Corrosive to metals	Classification not possible	–	–	–	Test methods applicable to solid substances are not available. (Melting point: 131.6 plus or minus 0.5degC (Agricultural Chemicals Registration Data)

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	In the 2 tests with rats, we compared the LD50 values for male and female. And adopted the lower value of these groups. Then, based on the value LD50 = 195mg/kg (Agricultural Chemical Registration Data) which was the lower value of the data from the two tests, the substance was classified as Category 3.
1	Acute toxicity (dermal)	Not classified	–	–	–	Based on rat LD50 >5000mg/kg (Agricultural Chemical Registration Data) in male and female, it was set as the outside of Category.
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)	Category 4	Exclamation mark	Warning	Harmful if inhaled	It was set as Category 4 based on rat LC50 = 1.02mg/L which is the lower value of LC50 = 1.02mg/L (male) and LC50 = 1.20mg/L (female) (Agricultural Chemical Registration Data).
2	Skin corrosion / irritation	Category 3	–	Warning	Causes mild skin irritation	It was set as Category 3 based on the statement (Agricultural Chemical Registration Data) that mild skin irritations was seen in the rabbit.
3	Serious eye damage / eye irritation	Not classified	–	–	–	In the rabbit, it set as the outside of Category based on the statement (Agricultural Chemical Registration Data) that eye irritation was not seen.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	Respiratory sensitization: no data available. Skin sensitization: in the Maximization method 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 bone marrow cells) (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 generating of the tumor relevant to the dose was not seen in the carcinogenicity tests of rats and mice.

7	Toxic to reproduction	Not classified	–	–	–	Based on the statement (Agricultural Chemical Registration Data) that the mischief to the reproductive function or reproduction ability of parental animals relevant to dose and the mischief on child animals' generating and teratogenicity were not seen in the three-generation reproductive examination using rat and the reproductive toxicity studies using rat and rabbit (Agricultural Chemical Registration Data). So it was set as the outside of Category.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	Since there is description (Agricultural Chemical Registration Data) that it is LD50=195mg/kg and emotions insecurity, tremor, the ataxia, spasm, and opisthotonos at the dosage near LD50=195mg/kg in a rat, were seen, it was thought that it was expressed within the range of the guidance value in Category 1 (below 300mg/kg), and was considered as Category 1 (nervous systems).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system) through prolonged or repeated exposure	Based on description that the decrease weight gains, feed intake reduction and water intake decreased were observed in a rat with the given dose (33.9 mg/kg) of guidance value within the limits of Category 2, and the hind-limb spasm, ataxy, feed intake reduction, and weight decrease etc. were observed in a dog with dosage (10.8-11.3 mg/kg) of guidance value within the limits of Category 2 (Agricultural Chemical Registration Data), it was classified into Category 2 (nerve systems).
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=21.8microg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2004).
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<4 (existing chemical safety inspections data)), .