

GHS Classification

ID862

1,2,3,6-tetrahydro-N-(trichloromethylthio)phthalimide

CAS 133-06-2

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 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	-	-	-	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	Not applicable	-	-	-	Organic compounds containing oxygen and chlorine (but not fluorine) and these elements are chemically bonded only to carbon and hydrogen (but not to other elements).
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Liquid at a test temperature, 55degC. 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 5	-	Warning	May be harmful if swallowed	Calculated based on the following data: Rat LD50 value:6170mg/kg, about 9000mg/kg and 3573mg/kg (all are Agricultural-Chemicals abstracts). Since the calculated values was 3677mg/kg, it was classified to category 5.
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on rat LD50 value: >5000mg/kg (Agricultural-Chemicals abstracts), 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 3	Skull and crossbones	Danger	Toxic if inhaled	Based on male rats LC50 (4 hours) level: 0.72mg/L (Agricultural-Chemicals abstracts), it was set as Category 3.
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	It was set as Category 2 from description that moderate to severe erythema and that accompanied by dropsy were acknowledged as a result of sticking on human skin for 24 hours (Agricultural-Chemicals abstracts).
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	There is the description that in the eye irritation tests using the rabbit, the change of the eye, which indicates irritation was acknowledged, and was maintained for 21 days (Agricultural-Chemicals abstracts). So it was set as Category 1.
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 allergic skin reaction	Respiratory organ: No data. Skin: Since positive rates were 40% in maximization test using guinea pigs (Agrichemical Abstracts), we categorized it as Category 1.
5 Germ cell mutagenicity	Not classified	-	-	-	There is a negative result in the dominant lethal examination on rats and mice and the specific locus examination on mice. Furthermore, although there was a positive result with the chromosome aberration test on mouse spermatogenous cell which is an in vivo mutagenicity test using germ cells, the increased chromosomal aberrations of spermatogonium was observed only in the high-dose groups. And with low-dose, the increase in heterochromosome or micronucleus was not observed with the chromosome aberration test and micronucleus examination on mouse bone marrow cells (Agricultural-chemicals abstract), and the in vivo micronucleus examination was estimated to be negative in JMPPR. So it was classified as out of Category.

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	It was classified into the group 3 (IARC Suppl.7, 1987) in IARC. But it is classified into A3 (ACGIH, 2002) in ACGIH, and category 3 (EU-Annex I, 2006) in EU. So it was considered as Category 2 according to ACGIH which is latest assessment document.
7	Toxic to reproduction	Not classified	-	-	-	It was considered as out of Category since specific reproductive toxicity was not observed at the dose causing general toxicity to parental animals in the rat feeding oral administration reproductive test and an pregnant rat, rabbit, monkey and hamster oral administration test (all are agricultural-chemicals abstracts).
8	Specific target organs/systemic toxicity following single exposure	Not classified	-	-	-	Since any serious toxic effect by the dose exceeding the guidance value range of Category 2 was not seen in oral administration, dermal administration, or inhalation exposure test using rats and mice (Agricultural-Chemical abstracts), it was set as the outside of Category.
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	In the oral study using a rat, mice and dogs, since the serious toxic effects were not observed with the dosage exceeding the Category 2 guidance value range (Agricultural Chemicals abstracts), it was classified into the outside of Category.
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-hour LC50=50microg/L of fishes (Rainbow trout) (Agricultural Chemical Registration Data, 1991).
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, not rapidly degrading (BOD: 0% (existing chemical safety inspections data)), though supposed less bioaccumulative (log Kow=2.8 (PHYSPROP Database, 2005)).