

## GHS Classification

**ID475**

**CAS 112410-23-8**

### Physical Hazards

**N-tert-butyl-N'-(4-ethylbenzoyl)-3,5-dimethylbenzohydrazide**

Date Classified: Dec. 18, 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 classified	—	—	—	Being a hydrazine compound, the substance contains chemical groups with explosive properties, but its oxygen budget is calculated at -254, that is "Not classified."
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
8 Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though being a hydrazine compound containing chemical groups with explosive properties.
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Considered non-pyrophoric when in contact with air at ordinary temperatures since the substance is stable to heat (up to 170degC) (Agricultural Chemical Registration Data)
11 Self-heating substances and mixtures	Not classified	—	—	—	Stable to heat (up to 170degC) (Agricultural Chemical Registration Data)
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	Not applicable	—	—	—	Organic compounds containing oxygen (but not fluorine and chlorine), with the oxygen bound to carbon and hydrogen (but not to other elements)
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: 192.3degC (Agricultural Chemical Registration Data)).

### Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	—	—	—	Based on the rat LD50 (oral route) value of >5,000mg/kg (Agricultural Chemical Registration Data (1993)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the rat LD50 (dermal route) value of >5,000mg/kg (Agricultural Chemical Registration Data (1993)).
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: dust, mist)	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 >0.43mg/L (4 hours) (Agricultural Chemical Registration Data (1993)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on no evidence of irritation observed in rabbit skin irritation tests (Agricultural Chemical Registration Data (1993)).
3 Serious eye damage / eye irritation	Not classified	—	—	—	Based on no evidence of irritation observed in rabbit eye irritation tests (Agricultural Chemical Registration Data (1993)).
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: No skin sensitizing potential was found in guinea pig sensitization tests employing the Buehler method (Agricultural Chemical Registration Data (1993)).
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 (1993)) and in vivo chromosome aberration tests on rat bone marrow cells (Agricultural Chemical Registration Data (1993)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in rat and mouse carcinogenicity studies (Agricultural Chemical Registration Data (1993)).
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 (1993)).

8	Specific target organs/systemic toxicity following single exposure	Classification not possible	—	—	—	Insufficient data available.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood system, liver)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (blood system).	Based on the evidence from animal studies including "decreased RBC," "increased total bilirubin level in the blood," and "increased pigmentation of Kupffer cells" (Agricultural Chemical Registration Data (1993)). 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	Since a potential that relevant toxicity was indicated in the water solubility testing (LP-PTS-ROP-Database (2009)) of this substance could not be denied from 48 hours EC50=3.8mg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data (1992)), it was classified into Category 1.
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Since acute toxicity was Category 1 and there was no rapidly degrading (BIOWIN), and since there was bio-accumulation (log Kow=4.25 (PHYSPROP Database, 2005)), it was classified into Category 1.