

GHS Classification

ID821

Petroleum benzine

CAS

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	Classification not possible	–	–	–	No data available
2 Flammable gases	Not applicable	–	–	–	Liquid (room temperature)
3 Flammable aerosols	Not applicable	–	–	–	Not aerosol products
4 Oxidizing gases	Not applicable	–	–	–	Liquid (room temperature)
5 Gases under pressure	Not applicable	–	–	–	Liquid (room temperature)
6 Flammable liquids	Category 1	Flame	Danger	Extremely flammable liquid and vapour	It was classified as Category 1 based on flash point: about –40 degC (solvent pocket book (1997)) and initial boiling point: 35 degC (Merck (13th, 2001)).
7 Flammable solids	Not applicable	–	–	–	Liquid (room temperature)
8 Self-reactive substances and mixtures	Classification not possible	–	–	–	No data available
9 Pyrophoric liquids	Not classified	–	–	–	Based on the ignition points of about 280 degC (> 75 degC) (pocket book books (1997)), it was classified as outside of Category.
10 Pyrophoric solids	Not applicable	–	–	–	Liquid (room temperature)
11 Self-heating substances and mixtures	Classification not possible	–	–	–	Test methods applicable to liquid substances are not available
12 Substances and mixtures, which in contact with water, emit flammable gases	Classification not possible	–	–	–	No data available
13 Oxidizing liquids	Classification not possible	–	–	–	No data available
14 Oxidizing solids	Not applicable	–	–	–	Liquid (room temperature)
15 Organic peroxides	Classification not possible	–	–	–	No data available
16 Corrosive to metals	Classification not possible	–	–	–	No data available

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	–	–	–	SPECIES: Rat ENDPOINT: LD50 VALUE: > 16 g/kg REFERENCE SOURCE: EHC20 (1982)
1 Acute toxicity (dermal)	Classification not possible	–	–	–	Insufficient data available
1 Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (room temperature)
1 Acute toxicity (inhalation: vapour)	Classification not possible	–	–	–	Insufficient data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	–	–	–	Insufficient data available
2 Skin corrosion / irritation	Category 3	–	Warning	Causes mild skin irritation	By statement that petroleum benzins contained hexane and heptane as the main components, and that although pentane, hexane, heptane and octane caused erythema, hyperemia, swelling, and pigmentation to human skin. But when hexane and heptane were eliminated, the pain decreased in the short time and the discontinuation of exposure recovered unfounded (NIOSH (1997)). So it was set as Category 3.
3 Serious eye damage / eye irritation	Category 2A–2B	Exclamation mark	Warning	Causes serious eye irritation	There is the description that petroleum benzins's principal components are hexanes and heptanes, and for hexane the irritation to eyes is acknowledged in evidence of exposure in humans (vol.1 (2002) of MOE Risk Assessment), and the description that mild irritation are acknowledged in rabbits. So it was set as Category 2A–2B.
4 Respiratory/skin sensitization	Classification not possible	–	–	–	No data available
5 Germ cell mutagenicity	Classification not possible	–	–	–	No data available
6 Carcinogenicity	Classification not possible	–	–	–	No data available

7	Toxic to reproduction	Classification not possible	–	–	–	No data available
8	Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic)	–	–	May cause respiratory irritation or may cause drowsiness and dizziness (narcotic)	The rat inhalation study indicated a coma during the exposure periods, and it was set as Category 3 (anaesthetic) based on the report (Industrial Medicine (1970)) that it recovered in several hours after the exposure stops.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system) through prolonged or repeated exposure	It was classified into Category 1 (nerve systems) based on that petroleum benzins is a mixture of pentane, hexane, and heptane etc. (solvent pocket book (1997)), and the statement showing that there are many case reports on the symptoms of polyneuropathy (poloneuropathy) developed in the humans exposed to the solvent including high-concentration hexane in the long-term (EHC20 (1982)). In addition, although it is a given dose beyond the maximum of a Category 2 guidance value, the symptom as humans that the repeat administration studies using a rat is also the same is observed (EHC20 (1982)).
10	Aspiration hazard	Category 1	Health hazard	Danger	May be fatal if swallowed and enters airways	Since the petroleum benzin consists of hexane and heptane, and hexane is hydrocarbon and its dynamic viscosity at 40 degrees C is 20.5mm ² /s or less, we classified it as Category 1. There is a description of chemical pneumonia by aspiration of hexane on the rat (DFGOT vol.4 (1992)).

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Classification not possible	–	–	–	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	–	–	–	No data available.