

GHS Classification

ID819

petroleum ether

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	Category 1 because of its flash point: -49degC(< 23degC) and initial Boiling point: 30degC(<= 35degC)
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 that the ignition points is 246 degC (dangerous decibel (the 2nd edition, 1993)) (> 70 degC), it was classified as the 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	-	-	-	UNRTDG No. 1202 Class: 3
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)	Classification not possible	-	-	-	No data available
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (room temperature)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Lesions of corneum are caused by contact for 30 minutes on the human skin. moreover, it was set as Category 3 by publication that although pentane, hexanes, heptane, and octane which were the composition ingredient of the petroleum ether caused erythema, hyperemia, swelling, and pigmentation to human skin. But when hexanes and heptane were eliminated, the pain decreased in the short time and the discontinuation of exposure recovered unfounded (NIOSH 1977).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	There is the description that petroleum ethers's principal components are pentanes and isohexanes (NIOSH (1977). And there is the description as to n-pentane, though in the eye irritation tests in rabbits, transient conjunctivitis were acknowledged it recovered within 72 hours. So it was set as Category 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	-	-	-	Insufficient data available
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic effects, respiratory tract irritation)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects, respiratory tract irritation)	It was set as Category 3 (anesthetic actions, respiratory irritant) based on the statement (NIOSH (1977)) that pentanes and isohexane are the principal components of petroleum ethers (NIOSH (1977)), and pentanes showed an anesthesia action and respiratory irritant in short time mouse inhalation study.
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	It was stated that pentanes and isohexane are as primary components of petroleum ethers (NIOSH (1997)), that polyneuropathy was occurred in humans exposed to a hexane solvent (16% methylpentane, 20% methyl cyclopentane, and 64% n-hexane) in high concentrations for one month or more (NIOSH (1997)), and that the result of inspection of the laborers exposed to the solvent which consists of pentane and 14% heptane and 5% hexane 80% showed that anorexia, adynamia, dysesthesia, malaise, and bilaterality and symmetry myopathy were indicated (NIOSH (1997)); it was classified into Category 2 (nerve systems)
10	Aspiration hazard	Category 1	Health hazard	Danger	May be fatal if swallowed and enters airways	We classified it as Category 1 based on the fact that the petroleum ether contains pentane and iso hexane as the principal components (NIOSH (1997)), and the pentane is a hydrocarbon and its dynamic viscosity is 0.374 mm ² /s at 20 degrees C (calculated from the viscosity 0.234 mPa·s at 20 degrees C, and the density of 0.62624 g/cm ³).

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.