

**CLIP, Chemical Laboratory Information Profile**

"Only when you know the hazards, can you take the necessary precautionary measures."

**Petroleum Ether****Aliphatic hydrocarbon mixture CAS No.: see synonyms**

Synonyms and CAS Numbers: naphtha 8002-05-9, VM&P naphtha 8032-32-4, rubber solvent 8030-30-6, Stoddard solvent 8052-41-3, petroleum thinner 64742-89-3. Other synonyms: Ligroin, mineral spirits, white spirits, safety solvent, SBP spirits, painter's naphtha.

**Physical Properties**

Colorless to yellow liquid with gasoline- or kerosene-like odor. Vapor pressure, melting point, freezing point, and other properties vary depending upon components, typically mixtures of hydrocarbons within the range from C<sub>5</sub> to C<sub>13</sub>.

**Exposure Limits**

Differ, depending upon CAS No.; range is as listed here. Note: exposure limits have not been established for some petroleum ethers.

OSHA PEL: 100 to 500 ppm  
ACGIH TLV: 100 to 400 ppm

**Hazardous Characteristics**

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
1	4	1	2	No	No	Oxidizing agents*

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

**\*Reactivity Hazards**

The reaction of petroleum ether with oxidizing agents is exothermic, and with strong oxidizing agents is often vigorous, including fire and explosion. See Bretherick's *Handbook of Reactive Chemical Hazards* for details and other incompatibilities.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9? No, provided that it contains no benzene or polynuclear aromatic hydrocarbons

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace*? No

**Typical symptoms of acute exposures:**

Headache, dizziness, nausea, skin inflammation, dermatitis, eye redness or irritation. Chemical pneumonia if swallowed and then vomited.

**Principal target organ(s) or system(s):**

Central nervous system, eyes, skin, respiratory system.

**Storage Requirements**

With other flammables in cool, dry, well-ventilated location, away from ignition sources and separated from oxidizing agents.

**Additional Remarks**

The vapor is heavier than air and can travel long distances; it is explosive when mixed with air. Develops a static charge when poured or pumped. The charge can be large enough to generate a spark sufficient to ignite the ever-present vapors, causing an explosion and/or fire. Some petroleum ethers, particularly those used as rubber solvents, may contain *n*-hexane; see the CLIP for *n*-hexane for specific hazard information.

**Notes****ReadMe**

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed*. For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

**Reproductive Toxins**

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at [www.sis.nlm.nih.gov](http://www.sis.nlm.nih.gov) and click on "Toxicology search". Note that some of the data in DART/ETIC have not been peer-reviewed. See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

**Abbreviations**

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m<sup>3</sup>—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

Prepared by: Jay A. Young

Date of preparation: January 10, 2001