

MATERIAL SAFETY DATA SHEET

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NO. 518

PETROLEUM "ETHER"

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SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: PETROLEUM "ETHER"

DESCRIPTION: Low boiling liquid fraction of petroleum, mainly pentanes and hexanes.

OTHER DESIGNATIONS: Light Ligroin(e), Petroleum Spirit, CAS #008 030 306

Applicable more general terms: Petroleum Naphtha, Petroleum Distillate, Naphtha,
 CAS #008 032 324 (applies to cuts of C₅-C₁₂ aliphatic hydrocarbons)

MANUFACTURER: Available from several suppliers.

SECTION II. INGREDIENTS AND HAZARDS

	%	HAZARD DATA	
		8-hr TWA, ppm OSHA PEL	ACGIH(1983) TLV
Petroleum Distillate (Aliphatic Naphtha, C ₅ to C ₇)	100	500	--
Pentanes		1000	600
Hexanes (except n-Hexane)		500	500
n-Hexane		500	50*
Heptanes		500	400

*Because of unique neurotoxicity of n-hexane metabolites (see MSDS #397), base control on n-hexane in the mixture.
 NIOSH (1977) recommended 10-hr TWA of 350 mg/m³; 15 minute Ceiling of 1800 mg/m³ (500 ppm hexanes or 600 ppm pentanes).

SECTION III. PHYSICAL DATA

Dist. Range, 1 atm, deg C ----- 30-90*	Specific gravity, 25/4C ----- 0.635-0.68*
Vapor density (Air=1) ----- ~3	Melting point, deg C ----- < -73
Solubility in water ----- Insoluble	Evaporation rate (BuAc=1) -- > 1
	Volatile, % by Volume ----- 100

Appearance & Odor: Clear, colorless, volatile liquid. Slight, characteristic odor.

*Exact values depend on the particular petroleum "ether" cut used. Narrower distillation cuts within this distillation range are frequently used.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	
		Lower	Upper
< -20F (TCC)	>400 F (estimate)	>1.1	-

Extinguishing Media: Dry chemical, carbon dioxide, foam. Use smothering technique to put out fires. Water spray may be ineffective in extinguishing fire and forced water stream could scatter fire. Use water spray to cool surroundings and fire-exposed containers (violent rupture possible). Remove container from fire area if safe. It can readily volatilize even below room temperature to form explosive vapor-air mixtures. Vapors can flow along surfaces to a distant ignition source and flash back. Firefighters should use self-contained breathing apparatus and full protective clothing.

SECTION V. REACTIVITY DATA

This is a stable material in closed containers at room temperature under normal storage and handling conditions. It does not polymerize.

This OSHA Class IA or IB flammable liquid (depending on the boiling point of the cut used) is incompatible with strong oxidizing agents. It must be kept away from sources of heat or ignition.

Thermal-oxidative degradation products include partial oxidation products of hydrocarbons, carbon monoxide and carbon dioxide.

SECTION VI. HEALTH HAZARD INFORMATION	TLV (Depends on n-hexane content) See Sect. II
<p>Excessive vapor inhalation irritates respiratory system & causes headache, dizziness, nausea, inebriation, and CNS depression. Chronic excessive exposure to n-hexane can cause peripheral neuropathy. Contact with high vapor levels or with liquid irritates the eyes.</p> <p>Liquid contact with skin is defatting and irritating; prolonged or repeated contact can cause dermatitis. Ingestion is irritating to mouth, throat and GI tract with coughing, vomiting, blurred vision, diarrhea as symptoms. It will tend to vaporize quickly on ingestion or aspiration. In the lungs this could give profound anoxia by displacing oxygen, with possible cardiac arrest and/or brain damage (based on animal studies).</p> <p>FIRST AID:</p> <p><u>Eye Contact:</u> Flush with running water, including under eyelids.</p> <p><u>Skin Contact:</u> Remove contaminated clothing. Wash affected area with soap and water. Get medical help if large areas of body are exposed or if irritation persists.</p> <p><u>Inhalation:</u> Remove to fresh air. Restore and/or support breathing. Have trained person administer oxygen if necessary. Call a physician.</p> <p><u>Ingestion:</u> Contact physician! <u>Aspiration hazard!</u> Do not induce vomiting. If spontaneous vomiting occurs, hold victim's head lower than hips to resist pulmonary aspiration.</p>	
SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES	
<p>Establish plans and provide training prior to any emergency situation. When spills occur exclude workers from area except those assigned to clean-up who must have proper protection against inhalation of vapors or contact with liquid (see Sect VIII). Provide maximum explosion-proof ventilation. Eliminate ignition sources. Stop leak & contain spill if safe. Flush away from sensitive areas with a cold water spray. (Flush to ground or open collection area not to sewer, waterway or enclosed area!) Small amounts of liquid (or solid-absorbed liquid) can be allowed to evaporate with good ventilation or in a hood or open area; large spills should be picked up in a safe and appropriate manner for disposal. Handle like gasoline! Avoid environmental pollution.</p> <p><u>DISPOSAL:</u> Scrap material can be carefully burned in an approved incinerator in accordance with Federal, State and Local regulations.</p>	
SECTION VIII. SPECIAL PROTECTION INFORMATION	
<p>Use explosion-proof general ventilation and local exhaust ventilation (or hood) to keep workplace vapors at a low level and all vapors below 25% of LEL. Above the TLV use an organic vapor canister gas mask or an air-supplied or self-contained respirator with full facepiece.</p> <p>Use approved gloves to prevent repeated or prolonged contact with liquid and safety glasses for eye protection where splashing is possible. Conditions of use may require additional protection against body contact with liquid.</p> <p>Provide an eyewash station, washing facilities and a safety shower.</p> <p>Promptly remove and isolate clothing wet with this material (flammability as well as health considerations), and be sure clothing is solvent-free before reuse.</p>	
SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS	
<p>Store in closed containers in a well-ventilated, cool area, away from oxidizing agents and sources of heat or ignition. No smoking in areas of use. Electrically bond and ground containers for transfers to prevent static sparks. Near this material use explosion-proof electrical services and equipment. Handle and store as an OSHA Class IA or IB flammable liquid (depending on the boiling point).</p> <p>Use only with ventilation. Follow good hygienic practice. Avoid prolonged or repeated skin contact and breathing of vapors or mists. Do not ingest.</p> <p>DOT Classification: FLAMMABLE LIQUID. I.D. No. UN1271 Label: FLAMMABLE LIQUID</p> <p>DATA SOURCE(S) CODE: 1, 2, 4-7, 9, 12, 14, 31, 34, 48</p>	
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