

MALLINCKRODT

Material Safety Data Sheet

Mallinckrodt, Inc. Science Products Division, P.O. Box M Paris, KY 40361

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Emergency Telephone Number: 314-982-5000

PETROLEUM ETHER

PRODUCT IDENTIFICATION:

Synonyms: Ligroin

Formula CAS No.: 8032-32-4

Molecular Weight: ca. 100

Chemical Formula: Not applicable.

Hazardous Ingredients:

A mixture of n-pentane and n-hexane.

PRECAUTIONARY MEASURES

DANGER! EXTREMELY FLAMMABLE. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. MAY AFFECT CENTRAL NERVOUS SYSTEM. CAUSES IRRITATION.

Keep away from heat, sparks and flame.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

Avoid breathing vapor.

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

DO NOT OPEN Unless Contents Are At Room

Temperature (72°F) or Below For At Least 24 Hours.

EMERGENCY/FIRST AID

If irritation develops call a physician. If swallowed, do not induce vomiting. Call a physician immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. In all cases call a physician.

SEE SECTION 5.

DOT Hazard Class: Flammable Liquid

SECTION 1 Physical Data

Appearance: Clear, colorless liquid.

Odor: Gasoline or kerosene.

Solubility: Insoluble.

Boiling Point: 35°C to 60°C (95° to 140°F).

Melting Point: < -73°C (-99°F).

Specific Gravity: 0.63-0.68

Vapor Density (Air=1): Approx. 3

Vapor Pressure (mm Hg): ca. 40 @ 20°C (68°F).

Evaporation Rate: (BuAc=1): ca. 10

SECTION 2 Fire and Explosion Information

Fire:

Extremely Flammable. Flashpoint: -57°C (-70°F) (CC).

Autoignition temperature:

232° to 260°C (450° to 500°F).

Flammable limits in air, % by volume:

lcl: 1; ucl: 6.

Dangerous fire hazard when exposed to heat or flame.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with oxidizable substances may cause extremely violent combustion.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect men attempting to stop leak. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures. Vapors can flow along surfaces to distant ignition source and flash back.

SECTION 3 Reactivity Data

Stability:

Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities:

Strong oxidizers, heat, flame. Will attack some forms of plastics, rubber and coatings.

SECTION 4 Leak/Spill Disposal Information

Ventilate area of leak or spill. Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Contain and recover liquid when possible. Collect as hazardous waste and atomize in a suitable RCRA approved combustion chamber, or absorb with vermiculite, dry sand, earth or similar material for disposal as hazardous waste in a RCRA approved facility. Do not flush to sewer!

Ensure compliance with local, state and federal regulations.

NFPA Ratings: Health: 1 Flammability: 4 Reactivity: 0

Effective Date: 04-06-89 Supersedes 02-15-89

PETROLEUM ETHER

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SECTION 5 Health Hazard Information

A. EXPOSURE / HEALTH EFFECTS

Inhalation:

Inhalation may cause symptoms of intoxication and peripheral nerve disorders and central nervous system depression. Symptoms of overexposure include loss of appetite, muscle weakness, impairment of motor action, dizziness and drowsiness. May also cause throat irritation.

Ingestion:

Local irritation with burning sensation in mouth, esophagus, and stomach. Vomiting, blurred vision, and diarrhea may also occur. Cases of chemical pneumonia have been reported from ingestion of this substance. Nervous system disorders paralleling those from ingestion exposure may also occur.

Skin Contact:

May cause irritation. The liquid acts as a defatting agent on the skin.

Eye Contact:

Vapors may cause irritation. Splashes may cause redness or pain.

Chronic Exposure:

Prolonged overexposure may cause drying and cracking of the skin and associated dermatitis. No chronic systematic effects have been reported from widespread industrial use.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

B. FIRST AID

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

Aspiration hazard. DO NOT INDUCE VOMITING! Get medical attention immediately. If spontaneous vomiting occurs, hold victim's head lower than hips to resist aspiration.

Skin Exposure:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.

Eye Exposure:

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA (RTECS, 1986)

Petroleum Spirits [8030-30-6]: Inhalation rat LC50: 3400 ppm/4H. Irritation data: eye human 880 ppm/15M.

SECTION 6 Occupational Control Measures

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL): 300 ppm (TWA), 400 ppm (STEL)

-ACGIH Threshold Limit Value (TLV): 300 ppm (TWA)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators: (NIOSH Approved)

If the PEL is exceeded a full facepiece chemical cartridge respirator may be worn up to the maximum use concentration specified by the respirator supplier. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 7 Storage and Special Information

Protect against physical damage. Store in a cool, dry well-ventilated location, away from direct sunlight and any area where the fire hazard may be acute. Store in tightly closed containers (preferably under nitrogen atmosphere). Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. DANGER! DO NOT OPEN Unless Contents Are At Room Temperature (72°F) or Below. Allow at least 24 hours for material to cool to room temperature before opening container.

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Addendum to Material Safety Data Sheet

REGULATORY STATUS

(Chem.Key: PETRO)

Hazard Categories for SARA

Section 311/312 Reporting

Acute Chronic Fire Pressure Reactive

X X X

Product or Components
of Product:

PETROLEUM ETHER (8032-32-4)

SARA EHS Sect. 302 RQ (lbs.)	TPQ (lbs.)	SARA Section 313 Chemicals Name List	Chemical Category	CERCLA Sec.103 RQ (lbs.)	RCRA Sec. 261.33
No	No	No	No	No	No

SARA Section 302 EHS RQ: Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.

SARA Section 302 EHS TPQ: Threshold Planning Quantity of Extremely Hazardous Substance. An asterisk (*) following a Threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity = 10,000 LBS.

SARA Section 313 Chemicals: Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.

CERCLA Sec. 103: Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center, (800-424-8802); Listed at 40 CFR 302.4

RCRA: Resource Conservation and Reclamation Act. Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33