

SAFETY DATA SHEET



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PETROLEUM ETHER 35-60° C

SDS No. M0168

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Petroleum Ether

Synonyms: Ligroin; Benzin; Petroleum Naphtha, Naphtha ASTM, Petroleum Spirits

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION



Classification:

Flammable Liquids: GHS Category 2

Skin Corrosion/Irritation: GHS Category 2

Serious Eye Damage/Eye Irritation: GHS Category 2

Specific Target Organ Toxicity: (single exposure) GHS Category 3 Target Organs - Central nervous

Aspiration Hazard: GHS Category 1

Label Elements

Signal Word: DANGER!

Hazard Statements:

H224 – Extremely flammable liquid and vapour

H304 – May be fatal if swallowed and enters airways.

H340 – May cause genetic defects.

H360 – Suspected of damaging fertility or the unborn child.

Precautionary Statements:

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P243 – Take precautionary measures against static discharge.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P332+P313 – If skin irritation occurs: Get medical advice/attention.

P403+P235 – Store in a well-ventilated place. Keep cool.

Clear focus. Consistent results. Complete confidence.

P501 – Dispose of contents/container in accordance with local regulations.

Emergency Overview

Harmful if inhaled or swallowed. May cause drowsiness or dizziness. May cause central nervous system damage. Causes irritation to eyes, skin, and respiratory tract. Aspiration hazard if swallowed. Possible cancer hazard. Highly flammable liquid and vapor. Vapor may cause flash fire. Target Organs: Kidneys, central nervous system, and lungs.

HMIS Rating:

Health – 0* Flammability – 4 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Petroleum Distillates	8032-32-4	100%	Yes

4. FIRST-AID MEASURES

Inhalation: Get medical aid immediately. Remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. DO NOT give mouth-to-mouth resuscitation. If breathing has ceased, apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Ingestion: Aspiration hazard. Get medical aid immediately. Do not induce vomiting. If conscious and alert, give 2-3 cups of milk or water. Never give anything by mouth to an unconscious person.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Highly flammable liquid and vapor (GHS Category 2)

Auto-ignition Temperature: 287° C (550° F)

Flash Point: < -17° C (1.4° F) – closed cup

Flammable Limits: Lower Limit – 1.1 vol %, Upper Limit – 5.9 vol %

Products of Combustion: Will decompose into highly toxic and irritating gases (carbon monoxide, carbon dioxide) under fire conditions.

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Liquid floats on water and may travel to a source of ignition and spread fire.

Specific Explosion Hazards: Containers may explode in the heat of a fire.

Fire Fighting Media: Use water spray to cool fire-exposed containers. Water may be ineffective. Material is lighter than water and insoluble in water. Fire could easily be spread in an area where water can't be contained. Cool containers with flooding quantities of water until well after fire is out. Use dry chemical, carbon dioxide, or appropriate foam.

National Fire Protective Association: Health - 1, Flammability - 4, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Provide ventilation to the affected area and remove all ignition sources. Avoid run-off into storm sewers and ditches that lead to waterways. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Use only non-sparking tools and equipment. A vapor suppressing foam may be used. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion-proof equipment. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Do not allow to evaporate to near dryness. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a flammables area away from heat, sparks, flame, and all sources of ignition. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or appropriate eye protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. Chemical-resistant nitrile gloves should be used during routine handling. Disposable nitrile gloves may be recommended for intermittent use. PVC, Neoprene, Viton, Butyl, or natural rubber gloves are not recommended. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirators when necessary.

Exposure Limits:

ACGIH – 300 ppm TWA

NIOSH – 350 mg/m³ TWA

OSHA Final PELs – None

OSHA Vacated PELs - 300 ppm TWA, 1350 mg/m³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: mild gasoline odor

Molecular Formula: Hydrocarbon

Molecular Weight: Not applicable

Auto-ignition Temperature: 287° C (550° F)

Flash Point: < -17° C (1.4° F) – closed cup

Flammable Limits: Lower Limit – 1.1 vol %, Upper Limit – 5.9 vol %

pH: Not available.

Boiling Point: 36° C @ 760 mm Hg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available

Specific Gravity (Water = 1): lighter than water, varies with mixture, but usually about 0.64

Vapor Density (Air=1): Not available

Vapor Pressure: Not available.

Evaporation Rate: Slower than ether.

Viscosity: Not available

Solubility: Insoluble

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature and pressure.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.

Incompatibility with Various Substances: May explode with nitrogen tetroxide. Potential violent reaction with strong oxidizers.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

Hazardous Polymerization: Has not been reported.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: High concentrations may cause central nervous system effects characterized by headache, dizziness, drowsiness, nausea, unconsciousness, and coma. Aspiration may cause respiratory swelling and pneumonitis. May cause numbness in extremities.

INGESTION HAZARD: Aspiration hazard. May cause gastrointestinal irritation with nausea, vomiting, and diarrhea. May cause central nervous system effects characterized by excitement followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma, and possible death due to reparatory failure.

SKIN CONTACT HAZARD: Causes skin irritation to include dryness, cracking, redness, and inflammation. May aggravate existing skin disorders.

EYE CONTACT HAZARD: May cause eye irritation, redness, and pain.

Chronic Exposure Hazards: Prolonged or repeated skin contact may cause dermatitis. Chronic exposure to vapors may cause polyneuropathy. Chronic exposure may cause kidney damage. Potential cancer hazard.

Animal Toxicity:

Inhalation, rat: LC50 = 3400 ppm/ 4h.

Intravenous, mouse: LD50 = 40 mg/kg

Carcinogenicity: ACGIH – A3, confirmed animal carcinogen with unknown relevance to humans; California, NTP, IARC – Not listed

Epidemiology: Studies involving petroleum refinery workers indicate persons with routine exposure to petroleum or one of its constituents may be at increased risk to the development of benign neoplasms, digestive tract cancer, and skin cancer.

Teratogenicity: No information found.

Reproductive Effects: No information found.

Mutagenicity: In vivo tests showed mutagenic effects.

Neurotoxicity: No information found.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No data available. The chemical is expected to cause some oxygen depletion in aquatic systems. It has a low potential to affect aquatic systems, aquatic organisms, secondary waste treatment microorganisms and the germination of some plants. It has a moderate potential to affect the germination and growth of some plants.

Environmental Fate: No information found.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing use, or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Petroleum Distillates, n.o.s.
Hazard Class: 3
UN Number: UN1268
Packing Group: II

IMDG

Proper Shipping Name: Petroleum Distillates, n.o.s.
Hazard Class: 3
UN Number: UN1268
Packing Group: II

IATA

Proper Shipping Name: Petroleum Distillates, n.o.s.
Hazard Class: 3
UN Number: UN1268
Packing Group: II

15. REGULATORY INFORMATION

US Federal Regulations:

CERCLA Hazardous Substances: CAS# 8032-32-4 does not have an RQ
SARA Section 302: Does not have a TPQ
SARA Codes: CAS# 8032-32-4 – immediate, delayed, fire
Section 313: Petroleum Ether (CAS# 8032-32-4) is not subject to SARA Title III reporting requirements.
OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 8032-32-4 is on the following state right-to-know lists: New Jersey, Pennsylvania, and Minnesota
California Prop 65: This product does not contain any chemical known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Originally Prepared: 9/28/2007
Last Revised: 03/03/2021 – Corrected flash point conversion.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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