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THE POWER OF THREE³

PHARMCO-AAPER

AND COMMERCIAL ALCOHOLS

Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEETS

Manufacturer: PHARMCO-AAPER
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PETROLEUM ETHER 60-80°C

MSDS No. M0843

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Petroleum Ether

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

Chemical Formula: Not Applicable

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

2. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Hexanes	110-54-3	25%-50%	Yes
Naphtha (petroleum) hydrotreated, light	8002-05-9	25%-50%	Yes

3. HAZARDS IDENTIFICATION

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE DROWSINESS AND DIZZINESS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. ASPIRATION HAZARD IF SWALLOWED. MAY CAUSE CENTRAL NERVOUS SYSTEM DAMAGE. TARGET ORGANS: KIDNEYS, CENTRAL NERVOUS SYSTEM, LUNGS.

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.

Carcinogenic: Potential cancer hazard.

4. FIRST-AID MEASURES

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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: Extremely flammable liquid and vapor

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

Flash Point: < -17° C (-18° F)

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.

Special Remarks: None

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 chemical splash goggles. 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 respirator

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

Eye Protection: Wear protective chemical goggles or appropriate eye protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: mild gasoline odor

Odor Threshold: Not available

Taste: Not available

Molecular Formula: Hydrocarbon

Molecular Weight: Not applicable

pH: Not available.

Boiling Point: 67-69° C @ 760 mm Hg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available

Specific Gravity: lighter than water

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

Animal Toxicity (RTECS):

Inhalation, rat: LC50 = 3400 ppm/4H;

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: No information found.

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 acetonitrile 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. This material is not a "P" listed waste under 40 CFR 261.33. It is not a "U" listed waste.

14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Petroleum Distillates, n.o.s.

Hazard Class: 3

UN Number: UN1268

Packing Group: II

Canada TDG

Proper Shipping Name: Petroleum Distillates, n.o.s.

Hazard Class: 3

UN Number: UN1268

Packing Group: II

Additional Information: No information available.

International (Water, I.M.O.)

Proper Shipping Name: Petroleum Distillates, n.o.s.

Hazard Class: 3

UN Number: UN1268

Packing Group: II

International (Air, I.C.A.O.)

Proper Shipping Name: Petroleum Distillates, n.o.s.

Hazard Class: 3

UN Number: UN1268

Packing Group: II

15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: CAS# 8032-32-4 is listed on the TSCA Inventory.

Health and Safety Reporting List: CAS# 8032-32-4 is not listed.

Chemical Test Rules: CAS# 8032-32-4: 40 is not listed.

Section 12b: CAS# 8032-32-4 is not listed.

TSCA Significant New Use Rule: Does not have an SNUR under TSCA.

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.

Clean Air Act: CAS# 8032-32-4 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 8032-32-4 is not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

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: California No Significant Risk Level: Not listed

Canada:

DSL/NDSL: CAS# 8032-32-4 is listed on Canada's DSL list.

WHMIS: This product has a WHMIS classification of B2, D2B. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List: CAS# 8032-32-4 is listed on Canada's Ingredient Disclosure list.

DSCL (EEC):

Hazard Symbols: T

Risk Phrases: R10 – Flammable; R45 – May cause cancer; R65 – Harmful, may cause lung damage if swallowed..

Safety Phrases: S7 – Keep container tightly closed; S16 – Keep away from sources of ignition-no smoking; S33 – Take precautionary measure against static discharge; S45 – In case of accident or if you feel unwell, seek medical advice

immediately (show the label where possible); S53 – Avoid exposure – obtain special instructions before use; S431 – In case of fire, use dry chemical, carbon dioxide, water spray, or foam (These chemical have very low flashpoints and the use of water spray may be inefficient).

WGK (Water Danger/protection): CAS# 8032-32-4: 1

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

National Fire Protective Association: Health - 1, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

16. OTHER INFORMATION

Originally Prepared: 9/28/2007

Last Revised: 12/18/2007

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.