Material Safety Data Sheet
Petroleum Ether

ACC# 18330

Section 1 - Chemical Product and Company Identification

MSDS Name: Petroleum Ether
Catalog Numbers: E120-4, E120-400, E120J4, E120SS50, E139-1, E139-20, E139-200, E139-4, E139-500, E139FB115, E139FB19, E139FB200, E139FB50, E139J1, E139J4, E139RB115, E139RB200, E139RB50, E139RS115, E139RS19, E139RS200, E139RS28, E139RS50, E139S-4, E139SK-4, E139SS115, E139SS200, E139SS28, E139SS50, P480-4, P4804LC, P480RS115, P480RS19, P480RS200, P480RS28, P480RS50, P480SS115, P480SS200, P480SS28, P480SS50, P481RS200, P481SS-200
Synonyms: Naphtha Solvent; Naphtha Petroleum
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
68476-50-6	Hydrocarbons, Includes chemicals below	~100	270-690-8
109-66-0	n-Pentane	<73	203-692-4
107-83-5	Isohexane	<11.0	203-523-4
96-14-0	3-Methylpentane	<6.0	202-481-4
75-83-2	Neohexane	<4.0	200-906-8
79-29-8	2,3-Dimethylbutane	<4.0	201-193-6
78-78-4	Isopentane	<2.0	201-142-8
287-92-3	Cyclopentane	<2.0	206-016-6
Not available	Various Isomers	<1.0	unlisted
71-43-2	Benzene	<1.0	200-753-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: -50 deg F.
Danger! Highly flammable. Cancer hazard. Harmful or fatal if swallowed. Breathing vapors may cause drowsiness and dizziness. Vapor harmful. Causes eye and skin irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. Causes digestive and respiratory tract irritation. Prolonged or repeated contact may dry the skin and cause irritation. May cause central nervous system depression.
Target Organs: Kidneys, central nervous system, lungs, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. May cause conjunctivitis and corneal inflammation.
Skin: Exposure may cause irritation characterized by redness, dryness, and inflammation. Prolonged exposure may produce blisters. May aggravate existing skin disorders.
Ingestion: Aspiration hazard. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. High vapor concentrations may cause drowsiness. Aspiration may cause respiratory swelling and pneumonitis.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic exposure to vapors may produce polyneuropathy. May cause kidney damage. Potential cancer hazard.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use 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.
Notes to Physician: Gastric lavage by qualified medical personnel may be considered depending on quantity of material ingested.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Vapor may cause flash fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.
Extinguishing Media: Use water spray to cool fire-exposed containers. Water may be ineffective. This material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out. For large fires, use water spray, fog or regular foam.
Flash Point: -50e deg F (-45.56 deg C)
Autoignition Temperature: 500 deg F (260.00 deg C)
Explosion Limits, Lower:1.1
Upper: 5.9
NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Prevent build up of vapors to explosive concentration. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hydrocarbons, Includes chemicals below	none listed	none listed	none listed
n-Pentane	600 ppm TWA	120 ppm TWA; 350 mg/m3 TWA 1500 ppm IDLH	1000 ppm TWA; 2950 mg/m3 TWA
Isohexane	none listed	none listed	none listed
3-Methylpentane	none listed	none listed	none listed
Neohexane	none listed	none listed	none listed
2,3-Dimethylbutane	none listed	none listed	none listed
Isopentane	600 ppm TWA (listed under Pentane, all isomers)	none listed	none listed
Cyclopentane	600 ppm TWA	600 ppm TWA; 1720 mg/m3 TWA	none listed
Various Isomers	none listed	none listed	none listed
Benzene	0.5 ppm TWA; 2.5 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous r oute	0.1 ppm TWA 500 ppm IDLH	10 ppm TWA (apply only to exempt industry segments); 25 ppm Ceiling; 1 ppm PEL; 5 ppm STEL; 0.5 ppm Action Level (Cancer hazard, Flammable - see 29 C FR 1910.1028)

OSHA Vacated PELs: Hydrocarbons, Includes chemicals below: No OSHA Vacated PELs are listed for this chemical. n-Pentane: 600 ppm TWA; 1800 mg/m3 TWA Isohexane: No OSHA Vacated PELs are listed for this chemical. 3-Methylpentane: No OSHA Vacated PELs are listed for this chemical. Neohexane: No OSHA Vacated PELs are listed for this chemical. 2,3-Dimethylbutane: No OSHA Vacated PELs are listed for this chemical. Isopentane: No OSHA Vacated PELs are listed for this chemical. Cyclopentane: 600 ppm TWA; 1720 mg/m3 TWA Various Isomers: No OSHA Vacated PELs are listed for this chemical. Benzene: 10 ppm TWA (unless specified in 1910.1028)
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colorless
Odor: mild odor - gasoline-like
pH: Not available.
Vapor Pressure: 485 mm Hg @ 20C
Vapor Density: 2.5
Evaporation Rate:>1.0 (butyl acetate=1)
Viscosity: Not available.
Boiling Point: 39.8 deg C
Freezing/Melting Point: Not available.
Decomposition Temperature: Not available.
Solubility: Insoluble.
Specific Gravity/Density:0.643 @ 60°F
Molecular Formula: Hydrocarbon
Molecular Weight: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials: May explode with nitrogen tetroxide, potential violent reaction with strong oxidizers.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 68476-50-6 unlisted.
CAS# 109-66-0: RZ9450000
CAS# 107-83-5: SA2985000
CAS# 96-14-0 unlisted.
CAS# 75-83-2 unlisted.
CAS# 79-29-8: EJ9350000
CAS# 78-78-4: EK4430000
CAS# 287-92-3: GY2390000
CAS# 71-43-2: CY1400000
LD50/LC50:
Not available.

CAS# 109-66-0:
Inhalation, rat: LC50 = 364 gm/m3/4H;
Oral, rat: LD50 = >2000 mg/kg;
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CAS# 107-83-5:
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CAS# 96-14-0:
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CAS# 75-83-2:
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CAS# 79-29-8:
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CAS# 78-78-4:
Inhalation, mouse: LC50 = 150000 mg/m3/2H;
Inhalation, rat: LC50 = 280000 mg/m3/4H;
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CAS# 287-92-3:
Inhalation, mouse: LC50 = 72 gm/m3;
Inhalation, rat: LC50 = 106 gm/m3;
Oral, mouse: LD50 = 12800 mg/kg;
Oral, rat: LD50 = 11400 mg/kg;
.

CAS# 71-43-2:
Dermal, guinea pig: LD50 = >9400 uL/kg;
Draize test, rabbit, eye: 88 mg Moderate;
Draize test, rabbit, eye: 2 mg/24H Severe;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Inhalation, mouse: LC50 = 9980 ppm;
Inhalation, mouse: LC50 = 24 mL/kg/2H;
Inhalation, rat: LC50 = 10000 ppm/7H;
Inhalation, rat: LC50 = 34 mL/kg/2H;
Inhalation, rat: LC50 = 6.5 mL/kg/4H;
Oral, mouse: LD50 = 4700 mg/kg;

Oral, rat: LD50 = 930 mg/kg;
Oral, rat: LD50 = 1 mL/kg;
Oral, rat: LD50 = 1800

Carcinogenicity:
CAS# 68476-50-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 109-66-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 107-83-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 96-14-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 75-83-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 79-29-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 78-78-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 287-92-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 71-43-2:

- **ACGIH:** A1 - Confirmed Human Carcinogen
- **California:** carcinogen, initial date 2/27/87
- **NTP:** Known carcinogen
- **IARC:** Group 1 carcinogen

Epidemiology: Epidemiological studies involving petroleum refinery workers indicate persons with routine exposure to petroleum or one of its constituents may be at an 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
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. This chemical is expected to cause some oxygen depletion in aquatic systems. It has a low potential to affect aquatic systems. It has a low potential to affect 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: This chemical does not bioconcentrate. When diluted with water, this chemical released directly or indirectly into the environment is not expected to have a significant impact.
Physical: Based on a vapor pressure of 514 mm Hg at 25°C, n-pentane is expected to exist entirely in the vapor phase in ambient air. n-Pentane does not absorb UV light in the environmentally significant range, >290 nm and probably will not undergo direct photolysis in the atmosphere.
Other: May be toxic to aquatic organisms; May cause long-term adverse effects in the aquatic environment.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series:
CAS# 71-43-2: waste number U019 (Ignitable waste, Toxic waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	PETROLEUM DISTILLATES, N.O.S.	PETROLEUM DISTILLATES, NOS
Hazard Class:	3	3
UN Number:	UN1268	UN1268
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 68476-50-6 is listed on the TSCA inventory.
CAS# 109-66-0 is listed on the TSCA inventory.
CAS# 107-83-5 is listed on the TSCA inventory.
CAS# 96-14-0 is listed on the TSCA inventory.
CAS# 75-83-2 is listed on the TSCA inventory.
CAS# 79-29-8 is listed on the TSCA inventory.
CAS# 78-78-4 is listed on the TSCA inventory.
CAS# 287-92-3 is listed on the TSCA inventory.
Various Isomers is not listed on the TSCA inventory. It is for research and development use only.
CAS# 71-43-2 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
CAS# 109-66-0: Testing required by manufacturers, processors

Section 12b
CAS# 109-66-0: Section 4
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 71-43-2: 10 lb final RQ (receives an adjustable RQ of 10 lbs based on potential carcinoge
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 109-66-0: immediate, delayed, fire.
CAS # 107-83-5: immediate, fire.
CAS # 96-14-0: immediate, fire.
CAS # 78-78-4: immediate, fire.
CAS # 287-92-3: fire.
CAS # 71-43-2: immediate, delayed, fire.
Section 313
This material contains Benzene (CAS# 71-43-2, <1.0%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 71-43-2 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 71-43-2 is listed as a Hazardous Substance under the CWA. CAS# 71-43-2 is listed as a Priority Pollutant under the Clean Water Act. CAS# 71-43-2 is listed as a Toxic Pollutant under the Clean Water Act.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 68476-50-6 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 109-66-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
CAS# 107-83-5 can be found on the following state right to know lists: Pennsylvania, Minnesota, Massachusetts.
CAS# 96-14-0 can be found on the following state right to know lists: Pennsylvania, Massachusetts.
CAS# 75-83-2 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.
CAS# 79-29-8 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.
CAS# 78-78-4 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.
CAS# 287-92-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
CAS# 71-43-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
WARNING: This product contains Benzene, a chemical known to the state of California to cause cancer. WARNING: This product contains Benzene, a chemical known to the state of California to cause male reproductive toxicity.
California No Significant Risk Level: CAS# 71-43-2: 6.4 æg/day NSRL (oral); 13 æg/day NSRL (inhalation)

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
T F N
Risk Phrases:
R 11 Highly flammable.
R 36/38 Irritating to eyes and skin.
R 45 May cause cancer.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 65 Harmful: may cause lung damage if swallowed.
R 66 Repeated exposure may cause skin dryness or cracking.
R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 29 Do not empty into drains.
S 33 Take precautionary measures against static discharges.
S 9 Keep container in a well-ventilated place.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.
S 62 If swallowed, do not induce vomiting: seek medical advice immed iately and show this container or label.

WGK (Water Danger/Protection)
CAS# 68476-50-6: No information available.
CAS# 109-66-0: 1
CAS# 107-83-5: 1
CAS# 96-14-0: 1
CAS# 75-83-2: No information available.
CAS# 79-29-8: No information available.
CAS# 78-78-4: 1
CAS# 287-92-3: 1
CAS# 71-43-2: 3
Canada - DSL/NDSL
CAS# 109-66-0 is listed on Canada's DSL List.
CAS# 107-83-5 is listed on Canada's DSL List.
CAS# 96-14-0 is listed on Canada's DSL List.

CAS# 75-83-2 is listed on Canada's DSL List.
CAS# 79-29-8 is listed on Canada's DSL List.
CAS# 78-78-4 is listed on Canada's DSL List.
CAS# 287-92-3 is listed on Canada's DSL List.
CAS# 71-43-2 is listed on Canada's DSL List.
CAS# 68476-50-6 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 109-66-0 is listed on the Canadian Ingredient Disclosure List.
CAS# 107-83-5 is listed on the Canadian Ingredient Disclosure List.
CAS# 75-83-2 is listed on the Canadian Ingredient Disclosure List.
CAS# 79-29-8 is listed on the Canadian Ingredient Disclosure List.
CAS# 287-92-3 is listed on the Canadian Ingredient Disclosure List.
CAS# 71-43-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 3/10/1999
Revision #11 Date: 1/31/2006