1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Petroleum Ether

**Cat No.**
- E120-4; E120-4LC; E120SK-4; E120SS-50; E139-1; E139-4; E139-20; E139-200; E139-500; E139FB-19; E139FB-50; E139FB-115; E139FB-200; E139RB-50; E139RB-115; E139RB-200; E139RS-19; E139RS-28; E139RS-50; E139RS-115; E139RS-200; E139S-4; E139SK-4; E139SS-28; E139SS-50; E139SS-200; P480-4; P480-4LC; P480RS-19; P480RS-28; P480RS-50; P480RS-115; P480RS-200; P480SS-28; P480SS-50; P480SS-115; P480SS-200; P481RS-200; P481SS-200

**Synonyms** Ligroine; Benzine; Naphtha Petroleum; Naphtha Solvent (Optima/Pesticide/Certified ACS)

**Recommended Use** Laboratory chemicals

**Company** Fisher Scientific

**Address** One Reagent Lane

**City** Fair Lawn, NJ 07410

**Phone** Tel: (201) 796-7100

**Emergency Telephone Number**
- CHEMTREC®, Inside the USA: 800-424-9300
- CHEMTREC®, Outside the USA: 703-527-3887

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2. HAZARDS IDENTIFICATION

**DANGER!**

**Emergency Overview**
- Flammable liquid and vapor. Cancer hazard. May cause heritable genetic damage. May cause eye, skin, and respiratory tract irritation. Inhalation may cause central nervous system effects. Aspiration hazard if swallowed - can enter lungs and cause damage.

**Appearance** Colorless

**Physical State** Liquid

**Odor** Petroleum distillates

**Target Organs** Central nervous system (CNS)

**Potential Health Effects**

**Acute Effects**

**Principle Routes of Exposure**

<table>
<thead>
<tr>
<th><strong>Eyes</strong></th>
<th>May cause irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skin</strong></td>
<td>May cause irritation. May be harmful in contact with skin.</td>
</tr>
</tbody>
</table>
Inhalation
May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. May be harmful if inhaled.

Ingestion
Aspiration hazard. May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects
May cause cancer. May cause heritable genetic damage. Experiments have shown reproductive toxicity effects on laboratory animals.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions
Central nervous system disorders. Preexisting eye disorders. Skin disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligroine</td>
<td>8032-32-4</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Get medical attention immediately if symptoms occur.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Center immediately.

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point
< -17.8°C / < 0°F

Method
No information available.

Autoignition Temperature
287.8°C / 550°F

Explosion Limits
Upper 5.9 vol %
Lower 1.1 vol %

Suitable Extinguishing Media
CO2, dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media
Water may be ineffective.

Hazardous Combustion Products
No information available.

Sensitivity to mechanical impact
No information available.

Sensitivity to static discharge
No information available.
Specific Hazards Arising from the Chemical
Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Use only under a chemical fume hood. Use explosion-proof equipment. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep under nitrogen. Flammables area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligoine</td>
<td>TWA: 300 ppm</td>
<td>(Vacated) TWA: 1350 mg/m³</td>
<td>TWA: 350 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) TWA: 300 ppm</td>
<td>Ceiling: 1800 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) STEL: 1800 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) STEL: 400 ppm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligoine</td>
<td>TWA: 1370 mg/m³</td>
<td>TWA: 1350 mg/m³</td>
<td>TWA: 1350 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA: 300 ppm</td>
<td>TWA: 300 ppm</td>
<td>TWA: 300 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL: 1800 mg/m³</td>
<td>STEL: 1800 mg/m³</td>
<td>STEL: 1800 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL: 400 ppm</td>
<td>STEL: 400 ppm</td>
<td>STEL: 400 ppm</td>
</tr>
</tbody>
</table>
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Appearance
odor
Odor Threshold
pH
Vapor Pressure
Vapor Density
Viscosity
Boiling Point/Range
Melting Point/Range
Decomposition temperature °C
Flash Point
Evaporation Rate
Specific Gravity
Solubility
log Pow

Physical State
Appearance
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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Appearance
odor
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pH
Vapor Pressure
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Viscosity
Boiling Point/Range
Melting Point/Range
Decomposition temperature °C
Flash Point
Evaporation Rate
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Solubility
log Pow

10. STABILITY AND REACTIVITY

Stability
Conditions to Avoid
Incompatible Materials
Hazardous Decomposition Products
Hazardous Polymerization
Hazardous Reactions .

Stability
Conditions to Avoid
Incompatible Materials
Hazardous Decomposition Products
Hazardous Polymerization
Hazardous Reactions .

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligroine</td>
<td>Not listed</td>
<td>Not listed</td>
<td>3400 ppm ( Rat ) 4 h</td>
</tr>
</tbody>
</table>
Irritation

No information available.

Toxicologically Synergistic Products

No information available.

Chronic Toxicity

The European Union classifies this product as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligroine</td>
<td>A3</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

ACGIH: (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

Sensitization

No information available.

Mutagenic Effects

No information available.

Reproductive Effects

Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects

Developmental effects have occurred in experimental animals.

Teratogenicity

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Endocrine Disruptor Information

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligroine</td>
<td>EC50 72 h 4700 mg/L</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Persistence and Degradability

No information available

Bioaccumulation/ Accumulation

No information available

Mobility

No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
14. TRANSPORT INFORMATION

DOT

UN-No: UN1268
Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S.
Hazard Class: 3
Packing Group: II

TDG

UN-No: UN1268
Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S.
Hazard Class: 3
Packing Group: II

IATA

UN-No: UN1268
Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S.
Hazard Class: 3
Packing Group: II

IMDG/IMO

UN-No: UN1268
Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S.
Hazard Class: 3
Packing Group: II

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligoine</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>232-453-7</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>KE-21994</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)  Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th></th>
<th>Acute Health Hazard</th>
<th>Chronic Health Hazard</th>
<th>Fire Hazard</th>
<th>Sudden Release of Pressure Hazard</th>
<th>Reactive Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Clean Water Act
Not applicable

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
Not Applicable

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligroine</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant: N

DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade
Serious risk, Grade 3

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
WHMIS Hazard Class
B2  Flammable liquid
D2A Very toxic materials

16. OTHER INFORMATION

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

Creation Date
11-Feb-2010

Print Date
11-Feb-2010

Revision Summary
“***”, and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS