1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name**  
n-Heptane

**Cat No.**  
AC120340000; AC120340010; AC120340025; AC120340050; AC120340250; AC120340251

**Synonyms**  
Normal heptane.; Heptane

**Recommended Use**  
Laboratory chemicals

**Company**  
Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Entity / Business Name**  
Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number**  
For information in the US, call: 001-800-ACROS-01  
For information in Europe, call: +32 14 57 52 11  
Emergency Number, Europe: +32 14 57 52 99  
Emergency Number, US: 001-201-796-7100  
CHEMTREC Phone Number, US: 001-800-424-9300  
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

**DANGER!**

**Emergency Overview**  
Flammable liquid and vapor. Irritating to eyes and skin. Inhalation may cause central nervous system effects. May cause irritation of respiratory tract. Aspiration hazard if swallowed - can enter lungs and cause damage. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Appearance**  
Colorless  

**Physical State**  
Liquid  

**odor**  
Petroleum distillates

**Target Organs**  
Central nervous system (CNS), Skin, Eyes, Blood, Liver, Kidney
Potential Health Effects

Acute Effects

Principle Routes of Exposure

- **Eyes**: Irritating to eyes.
- **Skin**: Irritating to skin. May be harmful in contact with skin.
- **Inhalation**: Inhalation may cause central nervous system effects. May cause irritation of respiratory tract. 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 adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions

Central nervous system disorders. Skin disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Heptane (n-)</td>
<td>142-82-5</td>
<td>&gt;95</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. Obtain medical attention.

**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. Obtain medical attention.

**Ingestion**

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

**Notes to Physician**

Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point**

-4°C / 24.8°F

**Method**

No information available.

**Autoignition Temperature**

215°C / 419°F

**Explosion Limits**

- **Upper**: 6.7 vol %
- **Lower**: 1.05 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.

NFPA Health 1 Flammability 3 Instability 0 Physical hazards N/A

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

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. 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>Heptane (n-)</td>
<td>TWA: 400 ppm</td>
<td>(Vacated) TWA: 400 ppm</td>
<td>IDLH: 750 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL: 500 ppm</td>
<td>(Vacated) TWA: 1600 mg/m³</td>
<td>TWA: 5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) STEL: 500 ppm</td>
<td>Ceiling: 440 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) STEL: 2000 mg/m³</td>
<td>TWA: 2000 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 500 ppm</td>
<td>TWA: 500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 2000 mg/m³</td>
<td>TWA: 2000 mg/m³</td>
</tr>
</tbody>
</table>

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

<table>
<thead>
<tr>
<th>Eye/face Protection</th>
<th>Skin and body protection</th>
<th>Respiratory Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>Wear appropriate protective gloves and clothing to prevent skin exposure.</td>
<td>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.</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>odor</td>
<td>Petroleum distillates</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>48 mbar @ 20 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>3.5 (Air = 1.0)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>0.4 mPa s at 20 °C</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>98°C / 208.4°F</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-91°C / -131.8°F</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>-4°C / 24.8°F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>(Butyl Acetate = 1.0)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.683</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>100.20</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C7 H16</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY
10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Incompatible products. Heat, flames and sparks.

Incompatible Materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat) 4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heptane (n-)</td>
<td>Not listed</td>
<td>3000 mg/kg</td>
<td>103 g/m³</td>
</tr>
</tbody>
</table>

Irritation
Irritating to eyes and skin

Toxicologically Synergistic Products
No information available.

Chronic Toxicity

Carcinogenicity
There are no known carcinogenic chemicals in this product

Sensitization
No information available.

Mutagenic Effects
No information available.

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

Other Adverse Effects
See actual entry in RTECS for complete information.

Endocrine Disruptor Information
No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
### 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**: UN1206
- **Proper Shipping Name**: HEPTANES
- **Hazard Class**: 3
- **Packing Group**: II

**TDG**

- **UN-No**: UN1206
- **Proper Shipping Name**: HEPTANES
- **Hazard Class**: 3
- **Packing Group**: II

**IATA**

- **UN-No**: UN1206
- **Proper Shipping Name**: Heptanes
- **Hazard Class**: 3
- **Packing Group**: II

**IMDG/IMO**

- **UN-No**: UN1206
- **Proper Shipping Name**: Heptanes
- **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>Heptane (n-)</td>
<td>T</td>
<td>X</td>
<td>-</td>
<td>205-563-8</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</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 Database
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)

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA 12(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heptane (n-)</td>
<td>Section 4</td>
</tr>
</tbody>
</table>

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

- Acute Health Hazard: Yes
- Chronic Health Hazard: No
- Fire Hazard: Yes
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

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>Heptane (n-)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</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
D2B Toxic materials

16. OTHER INFORMATION

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

Creation Date
14-Sep-2009

Print Date
21-Jul-2011

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

Disclaimer
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