1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hexanes
Cat No.: AC610370000; AC610370010; AC610371000
Synonyms: Hex
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

Creation Date: 15-Jun-2009
Revision Date: 31-Oct-2011
Revision Number: 2

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview:
Flammable liquid and vapor. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Vapors may cause drowsiness and dizziness. Possible risk of impaired fertility. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Appearance: Colorless
Physical State: Liquid
odor: No information available

Target Organs: Heart, Central nervous system (CNS), Respiratory system, Skin, Eyes
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**  
  May cause irritation of respiratory tract. May be harmful if inhaled. May cause drowsiness and dizziness.

- **Ingestion**  
  Harmful; may cause lung damage if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects  
Toxic; danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility.

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>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hexane</td>
<td>110-54-3</td>
<td>50-100</td>
</tr>
<tr>
<td></td>
<td>Hexane, branched and linear</td>
<td>92112-69-1</td>
<td>0-50</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. Immediate medical attention is required.

**Skin Contact**  
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**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. Immediate medical attention is required.

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

**Notes to Physician**  
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point**  
-22°C / -7.6°F

**Method**  
No information available.

**Autoignition Temperature**  
223°C / 433.4°F

**Explosion Limits**

<table>
<thead>
<tr>
<th>Lower</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire

Hazardous Combustion Products

Specific Hazards Arising from the Chemical
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

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 2 Flammability 3 Instability 1 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.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

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. Avoid ingestion and inhalation. 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. Flammables area. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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>Hexane</td>
<td>TWA: 50 ppm STEL: 1000 ppm Skin (Vacated) TWA: 50 ppm (Vacated) TWA: 180 mg/m³ (Vacated) STEL: 1000 ppm (Vacated) STEL: 3600 mg/m³ TWA: 500 ppm TWA: 1800 mg/m³</td>
<td>IDLH: 1100 ppm TWA: 50 ppm TWA: 180 mg/m³ Ceiling: 510 ppm Ceiling: 1800 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Quebec</td>
<td>Mexico OEL (TWA)</td>
<td>Ontario TWAEV</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-----------------</td>
<td>--------------</td>
</tr>
</tbody>
</table>
| Hexane    | TWA: 50 ppm  
TWA: 176 mg/m³  
STEL: 1000 ppm  
STEL: 3500 mg/m³  
Skin | TWA: 50 ppm  
TWA: 176 mg/m³  
STEL: 1000 ppm  
STEL: 3500 mg/m³  | TWA: 50 ppm  
STEL: 1000 ppm  
Skin |

**NIOSH IDLH:** Immediately Dangerous to Life or Health

**Personal Protective Equipment**

**Eye/face Protection**
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 and body protection**
Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**
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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Quebec</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Colorless</td>
</tr>
<tr>
<td><strong>odor</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>160 mbar @ 20°C</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>0.31 mPa s @ 20 °C</td>
</tr>
<tr>
<td><strong>Boiling Point/Range</strong></td>
<td>69°C / 156.2°F@ 760 mmHg</td>
</tr>
<tr>
<td><strong>Melting Point/Range</strong></td>
<td>-95°C / -139°F</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>-22°C / -7.6°F</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>0.659</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>log Pow</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Molecular Weight</strong></td>
<td>86.18</td>
</tr>
<tr>
<td><strong>Molecular Formula</strong></td>
<td>C6 H14</td>
</tr>
</tbody>
</table>

## 10. STABILITY AND REACTIVITY

**Stability**
Stable under normal conditions.

**Conditions to Avoid**

**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
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>Hexane</td>
<td>25 g/kg (Rat)</td>
<td>3000 mg/kg (Rabbit)</td>
<td>48000 ppm (Rat) 4 h</td>
</tr>
<tr>
<td>Hexane, branched and linear</td>
<td>15000 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</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

Possible risk of impaired fertility.

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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<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>Hexane</td>
<td>Not listed</td>
<td>2.1-2.98 mg/L LC50 96 h</td>
<td>Not listed</td>
<td>EC50: 3.87 mg/L/48h</td>
</tr>
</tbody>
</table>

Persistence and Degradability

No information available

Bioaccumulation/ Accumulation

No information available

Mobility

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>4.11</td>
</tr>
<tr>
<td>Hexane, branched and linear</td>
<td>4.11</td>
</tr>
</tbody>
</table>
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: UN1208
- Proper Shipping Name: Hexanes
- Hazard Class: 3
- Packing Group: II

TDG
- UN-No: UN1208
- Proper Shipping Name: HEXANES
- Hazard Class: 3
- Packing Group: II

IATA
- UN-No: UN1208
- Proper Shipping Name: Hexanes (Mixture)
- Hazard Class: 3
- Packing Group: II

IMDG/IMO
- UN-No: UN1208
- Proper Shipping Name: Hexanes (Mixture)
- 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>Hexane</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>203-777-6</td>
<td>-</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hexane, branched and linear</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>295-570-2</td>
<td>-</td>
<td></td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</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**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>110-54-3</td>
<td>50-100</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous Categorization**

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

**Clean Water Act**
Not applicable

**Clean Air Act**

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depleters</th>
<th>Class 2 Ozone Depleters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OSHA**
Not applicable

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>5000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

**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>Hexane</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
U.S. Department of Transportation
Reportable Quantity (RQ): Y
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
Email: EMSDS.RA@thermofisher.com

Creation Date 15-Jun-2009
Print Date 31-Oct-2011
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