1. Identification

Product Name: Phenanthrene

Cat No.: AC130090000; AC130090050; AC130090500; AC130095000

CAS-No: 85-01-8

Synonyms: No information available

Recommended Use: Laboratory chemicals.

Uses advised against: Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet:

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

Emergency Telephone Number

For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11

Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99

CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Warning

Hazard Statements
Harmful if swallowed
Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
If symptoms persist, call a physician.

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

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

Inhalation
Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects
None reasonably foreseeable.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable Extinguishing Media
No information available

Flash Point
No information available
Method -
No information available

Autoignition Temperature
No information available

Explosion Limits
Upper
No data available
Lower
No data available
Sensitivity to Mechanical Impact  No information available  
Sensitivity to Static Discharge  No information available  

Specific Hazards Arising from the Chemical 
Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products  
Carbon monoxide (CO). Carbon dioxide (CO₂). 

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.

NFPA  

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

6. Accidental release measures  
Personal Precautions  
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. 

Environmental Precautions  
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up  
Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

7. Handling and storage  
Handling  
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. 

Storage  
Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection  
Exposure Guidelines  
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td></td>
<td>TWA: 0.2 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Engineering Measures  
Ensure adequate ventilation, especially in confined areas.

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.

Hygiene Measures  
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties
10. Stability and reactivity

Reactive Hazard
None known, based on information available

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

Acute Toxicity

Product Information

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>Phenanthrene</td>
<td>1.8 g/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
No information available

Sensitization
No information available

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>
Phenanthrene

Revision Date 16-Jan-2019

Mutagenic Effects  No information available
Reproductive Effects  No information available.
Developmental Effects  No information available.
Teratogenicity  No information available.
STOT - single exposure  None known
STOT - repeated exposure  None known
Aspiration hazard  No information available
Symptoms / effects, both acute and delayed  No information available
Endocrine Disruptor Information  No information available
Other Adverse Effects  The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the 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>Phenanthrene</td>
<td>Not listed</td>
<td>LC50 = 3.2 mg/L 96h</td>
<td>Not listed</td>
<td>LC50 = 0.35 mg/L 48h</td>
</tr>
</tbody>
</table>

Persistence and Degradability  May persist
Bioaccumulation/ Accumulation  No information available.
Mobility  Not likely mobile in the environment due its low water solubility.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td>4.5</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

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3077</td>
<td>Environmentally hazardous substances, solid, n.o.s.</td>
<td>9</td>
<td>III</td>
</tr>
</tbody>
</table>

TDG

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3077</td>
<td>Environmentally hazardous substances, solid, n.o.s.</td>
<td>9</td>
<td>III</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3077</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*</td>
<td>9</td>
<td>III</td>
</tr>
</tbody>
</table>

IMDG/IMO

<table>
<thead>
<tr>
<th>UN-No</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3077</td>
</tr>
</tbody>
</table>
**Phenanthrene**

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.

Hazard Class: 9

Packing Group: III

### 15. Regulatory information

#### United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
<td>X</td>
<td>ACTIVE</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- TSCA - Toxic Substances Control Act, (40 CFR Part 710)
- X - Listed
- '-' - Not Listed
- TSCA 12(b) - Notices of Export
  - Not applicable

#### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
<td>X</td>
<td>-</td>
<td>201-581-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-28202</td>
</tr>
</tbody>
</table>

#### U.S. Federal Regulations

**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>Phenanthrene</td>
<td>85-01-8</td>
<td>&gt;95</td>
<td>1.0 0.1</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenanthrene</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

**Clean Air Act**

Not applicable

**OSHA - Occupational Safety and Health Administration**

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>Phenanthrene</td>
<td>5000 lb</td>
<td></td>
</tr>
</tbody>
</table>

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

<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>Phenanthrene</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**

Reportable Quantity (RQ):
- Phenanthrene: 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: No information available

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**16. Other information**

Prepared By: Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date: 01-May-2012
Revision Date: 16-Jan-2019
Print Date: 16-Jan-2019
Revision Summary: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer:
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of SDS