1. PRODUCT AND COMPANY IDENTIFICATION

Product name  Benzo[a]pyrene
UN/ID No  3077
Recommended use  For research use only

Supplier Address  Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address  technical@abcam.com

Emergency telephone  Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger
**Hazard statements**

H317 - May cause an allergic skin reaction
H340 - May cause genetic defects
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements - EU (§28, 1272/2008)**

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P280 - Wear protective gloves/ eye protection/ face protection
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P273 - Avoid release to the environment
P391 - Collect spillage
P501 - Dispose of contents/ container to an approved waste disposal plant
P405 - Store locked up
P272 - Contaminated work clothing should not be allowed out of the workplace
P363 - Wash contaminated clothing before reuse

**Other information**

Caution - substance not yet tested completely

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzo[a]pyrene</td>
<td>50-32-8</td>
<td>&gt;100</td>
<td>Skin Sens. 1 (H317) Mut. 1B (H340) Carc. 1B (H350)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 1B (H360FD) Aquatic Acute 1 (H400) Aquatic Ch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
# 4. FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Description</th>
<th>Instructions/Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>General advice</td>
<td>If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Move to fresh air.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Clean mouth with water. Drink plenty of water.</td>
</tr>
<tr>
<td>Notes to physician</td>
<td>May cause sensitization of susceptible persons. Treat symptomatically.</td>
</tr>
</tbody>
</table>

# 5. FIRE-FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable properties</td>
<td>Not flammable.</td>
</tr>
<tr>
<td>Flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>Suitable extinguishing media</td>
<td>Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.</td>
</tr>
<tr>
<td>Explosion Data</td>
<td></td>
</tr>
<tr>
<td>Sensitivity to Mechanical Impact</td>
<td>none.</td>
</tr>
<tr>
<td>Sensitivity to Static Discharge</td>
<td>none.</td>
</tr>
<tr>
<td>Specific hazards arising from the chemical</td>
<td>Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.</td>
</tr>
<tr>
<td>Protective equipment and precautions for firefighters</td>
<td>As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.</td>
</tr>
</tbody>
</table>

# 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Description</th>
<th>Instructions/Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal precautions</td>
<td>Use personal protective equipment. Avoid contact with the skin and the eyes. Avoid dust formation. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.</td>
</tr>
<tr>
<td>Environmental precautions</td>
<td>Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.</td>
</tr>
<tr>
<td>Methods for containment</td>
<td>Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.</td>
</tr>
<tr>
<td>Methods for cleaning up</td>
<td>Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material.</td>
</tr>
<tr>
<td>Other information</td>
<td>Refer to protective measures listed in sections 7 and 8.</td>
</tr>
</tbody>
</table>

# 7. HANDLING AND STORAGE
Advice on safe handling
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use.

Technical measures/Storage conditions
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

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.

Engineering measures
Shower
Eyewash stations
Ventilation systems

Personal protective equipment
Eye/face protection
Tightly fitting safety goggles.

Skin and body protection
No special protective equipment required.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</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>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>Solid</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
Carbon monoxide (CO). Carbon dioxide (CO₂).

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Product Information

May cause sensitization of susceptible persons.

**Chronic toxicity**

Chronic toxicity

Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

Carcinogenicity

This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

- California - Proposition 65 - Carcinogens List

Sensitization

As a precaution the product should be treated as a sensitizer.

Mutagenic effects

Possible risk of irreversible effects.

Reproductive toxicity

Product is or contains a chemical which is a known or suspected reproductive hazard.

Developmental Toxicity

Contains ingredients that have suspected developmental hazards. Possible risk of harm to the unborn child. May cause birth defects.

Target Organ Effects

None known.

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**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Do not re-use empty containers.

14. TRANSPORT INFORMATION

**DOT**

Proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Benzo[a]pyrene)

Hazard class

9

UN/ID No

3077

Packing group

III

**IATA**

Proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Benzo[a]pyrene)

Hazard class

9

UN/ID No

3077

Packing group

III
15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>SARA 311/312</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

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

U.S. State Right-to-Know Regulations

International Regulations

WHMIS Note:
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.
Full text of H-Statements referred to under sections 2 and 3
H317 - May cause an allergic skin reaction H340 - May cause genetic defects H350 - May cause cancer H360FD - May damage fertility. May damage the unborn child H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

Hazard statements
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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 MSDS