SAFETY DATA SHEET

1. Identification
Product identifier 1,2-Benzanthracene
Other means of identification
Product code N-10143
Recommended use For Laboratory Use Only
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name Chem Service, Inc.
Address 660 Tower Lane
West Chester, PA 19380
United States
Telephone Toll Free 800-452-9994
Direct 610-692-3026
Website www.chemservice.com
E-mail info@chemservice.com
Emergency phone number Chemtrec US 800-424-9300
Chemtrec outside US +1 703-527-3887

2. Hazard(s) identification
Physical hazards Not classified.
Health hazards Carcinogenicity Category 1
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 1
Hazardous to the aquatic environment, long-term hazard Category 1
OSHA defined hazards Not classified.
Label elements
Signal word Danger
Hazard statement May cause cancer. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Precautionary statement
Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response If exposed or concerned: Get medical advice/attention. Collect spillage.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information Not applicable.

3. Composition/information on ingredients
Substances
<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Benzanthracene</td>
<td></td>
<td>56-55-3</td>
<td>100</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures
Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact: Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact: Rinse with water. Get medical attention if irritation develops and persists.
Ingestion: Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed: Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information: IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions: Use water spray to cool unopened containers.
Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards: No unusual fire or explosion hazards noted.

6. Accidental release measures
Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up: This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Collect spillage. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions: Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage
Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains.
Conditions for safe storage, including any incompatibilities: Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection
Occupational exposure limits: No exposure limits noted for ingredient(s).
Biological limit values: No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment
Eye/face protection: Use personal protective equipment as required.
Skin protection
Hand protection: Use personal protective equipment as required.
Other: Use personal protective equipment as required.
Respiratory protection: Use personal protective equipment as required.
Thermal hazards: Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
9. Physical and chemical properties

**Appearance**
- **Physical state**: Solid.
- **Form**: Solid. Crystalline Solid
- **Color**: Yellow to Tan
- **Odor**: Not available.
- **Odor threshold**: Not available.
- **pH**: Not available.
- **Melting point/freezing point**: 320 °F (160 °C)
- **Initial boiling point and boiling range**: 819.68 °F (437.6 °C)
- **Flash point**: Not available.
- **Evaporation rate**: Not available.
- **Flammability (solid, gas)**: Not available.

**Upper/lower flammability or explosive limits**
- **Flammability limit - lower (%)**: Not available.
- **Flammability limit - upper (%)**: Not available.
- **Explosive limit - lower (%)**: Not available.
- **Explosive limit - upper (%)**: Not available.

**Vapor pressure**
- < 0 kPa at 25 °C
- < 0 kPa at 20 °C

**Vapor density**: Not available.
**Relative density**: Not available.

**Solubility(ies)**
- **Solubility (water)**: Not available.
- **Partition coefficient (n-octanol/water)**: 5.8

**Auto-ignition temperature**: Not available.
**Decomposition temperature**: Not available.
**Viscosity**: Not available.

**Other information**
- **Molecular formula**: C18-H12
- **Molecular weight**: 228.29 g/mol

10. Stability and reactivity

**Reactivity**: The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability**: Material is stable under normal conditions.

**Possibility of hazardous reactions**: Hazardous polymerization does not occur.

**Conditions to avoid**: Contact with incompatible materials.

**Incompatible materials**: Strong oxidizing agents.

**Hazardous decomposition products**: No hazardous decomposition products are known.

11. Toxicological information

**Information on likely routes of exposure**
- **Ingestion**: Expected to be a low ingestion hazard.
- **Inhalation**: No adverse effects due to inhalation are expected.
- **Skin contact**: No adverse effects due to skin contact are expected.
- **Eye contact**: Direct contact with eyes may cause temporary irritation.

**Symptoms related to the physical, chemical and toxicological characteristics**: Direct contact with eyes may cause temporary irritation.

**Information on toxicological effects**
1. Acute toxicity
   Not available.

2. Skin corrosion/irritation
   Prolonged skin contact may cause temporary irritation.

3. Serious eye damage/eye irritation
   Direct contact with eyes may cause temporary irritation.

4. Respiratory or skin sensitization
   Respiratory sensitization: Not available.
   Skin sensitization: This product is not expected to cause skin sensitization.

5. Germ cell mutagenicity
   No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

6. Carcinogenicity
   IARC Monographs. Overall Evaluation of Carcinogenicity
   1,2-Benzanthracene (CAS 56-55-3) 2B Possibly carcinogenic to humans.

7. US. National Toxicology Program (NTP) Report on Carcinogens
   1,2-Benzanthracene (CAS 56-55-3) Reasonably Anticipated to be a Human Carcinogen.

   Not listed.

9. Reproductive toxicity
   This product is not expected to cause reproductive or developmental effects.

10. Specific target organ toxicity - single exposure
    Not classified.

11. Specific target organ toxicity - repeated exposure
    Not classified.

12. Aspiration hazard
    Not available.

13. Chronic effects
    Prolonged exposure may cause chronic effects.

14. Ecological information

   Ecotoxicity
   Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

   Persistence and degradability
   No data is available on the degradability of this product.

   Bioaccumulative potential
   Not available.

   Partition coefficient n-octanol / water (log Kow)
   5.79

   Mobility in soil
   No data available.

   Other adverse effects
   No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

15. Disposal considerations

   Disposal instructions
   Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

   Local disposal regulations
   Dispose in accordance with all applicable regulations.

   Hazardous waste code
   The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

   US RCRA Hazardous Waste U List: Reference
   1,2-Benzanthracene (CAS 56-55-3) U018

   Waste from residues / unused products
   Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

   Contaminated packaging
   Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

16. Transport information

   DOT
   UN number: UN3077
   UN proper shipping name: Environmentally hazardous substances, solid, n.o.s. (1,2-Benzanthracene RQ = 10 LBS), MARINE POLLUTANT
   Transport hazard class(es)
   Class: 9
   Subsidiary risk: -
   Label(s): 9
Packing group: III
Environmental hazards: marine pollutant
  Yes
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Special provisions: 8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33
Packaging exceptions: 155
Packaging non bulk: 213
Packaging bulk: 240

IATA
UN number: UN3077
UN proper shipping name: Environmentally hazardous substance, solid, n.o.s. (1,2-Benzanthracene)
Transport hazard class(es): Class 9
  Subsidiary risk: -
Packing group: III
Environmental hazards: No
ERG Code: 9L
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Other information:
  Passenger and cargo aircraft: Allowed.
  Cargo aircraft only: Allowed.

IMDG
UN number: UN3077
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,2-Benzanthracene), MARINE POLLUTANT
Transport hazard class(es): Class 9
  Subsidiary risk: -
Packing group: III
Environmental hazards: Yes
EmS: F-A, S-F
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
DOT; IATA; IMDG

15. Regulatory information
US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
  All components are on the U.S. EPA TSCA Inventory List.
1,2-Benzanthracene (CAS 56-55-3)

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**
Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**
1,2-Benzanthracene (CAS 56-55-3) *Listed.*

**SARA 304 Emergency release notification**
Not regulated.

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard - No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

**SARA 302 Extremely hazardous substance**
Not listed.

**SARA 311/312 Hazardous chemical**
Yes

**SARA 313 (TRI reporting)**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Benzanthracene</td>
<td>56-55-3</td>
<td>100</td>
</tr>
</tbody>
</table>

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**
1,2-Benzanthracene (CAS 56-55-3)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**
Not regulated.

**Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)**
Priority pollutant
Toxic pollutant

**Safe Drinking Water Act (SDWA)**
Not regulated.

**US state regulations**

**US. Massachusetts RTK - Substance List**
1,2-Benzanthracene (CAS 56-55-3)

**US. New Jersey Worker and Community Right-to-Know Act**
1,2-Benzanthracene (CAS 56-55-3) 500 LBS

**US. Pennsylvania RTK - Hazardous Substances**
1,2-Benzanthracene (CAS 56-55-3)

**US. Rhode Island RTK**
1,2-Benzanthracene (CAS 56-55-3)

**US. California Proposition 65**
WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**
1,2-Benzanthracene (CAS 56-55-3) Listed: July 1, 1987

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no)*
---|---|---
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date: 06-02-2014
Version #: 01

NFPA ratings
- Health: 1
- Flammability: 0
- Instability: 0

Disclaimer

The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

Persons not specifically and properly trained should not handle this chemical or its container. This product is furnished FOR LABORATORY USE ONLY! Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticide products, food additives or as household chemicals.

This Safety Data Sheet (SDS) is intended only for use with Chem Service, Inc. products and should not be relied on for use with materials from any other supplier even if the chemical name(s) on the product are identical! Whenever using an SDS for a solution or mixture the user should refer to the SDS for every component of the solution or mixture. Chem Service warrants that this SDS is based upon the most current information available to Chem Service at the time it was last revised. THIS WARRANTY IS EXCLUSIVE, AND CHEM SERVICE, INC. MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. This SDS is provided gratis and CHEM SERVICE, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES.

Copyright © 2000-2014 Chem Service, Inc. All rights reserved except that this SDS may be printed for the use of a customer or prospective customer of Chem Service, Inc provided the entire SDS is printed. The SDS may not be placed in any database or otherwise stored or distributed in electronic or any other form.

This product is furnished FOR LABORATORY USE ONLY.