

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**1 Identification**

- **Product identifier**
- **Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**
- **Part number: P-660-1**
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Agilent Technologies, Inc.  
5301 Stevens Creek Blvd.  
Santa Clara, CA 95051 USA
- **Information department:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number: CHEMTREC®: 1-800-424-9300**

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 1B H350 May cause cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

dichloromethane

- **Hazard statements**

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause cancer.

May cause respiratory irritation.

(Contd. on page 2)

US

## Safety Data Sheet acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

### Trade name: Benzo(b)fluoranthene Standard (1X1 mL)

(Contd. of page 1)

May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*2

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### \* 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|         |                 |         |
|---------|-----------------|---------|
| 75-09-2 | dichloromethane | 99.993% |
|---------|-----------------|---------|

US  
(Contd. on page 3)

## Safety Data Sheet

### acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 2)

**4 First-aid measures**

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

 · **PAC-1:**

|          |                          |                        |
|----------|--------------------------|------------------------|
| 75-09-2  | dichloromethane          | 200 ppm                |
| 205-99-2 | benz[e]acephenanthrylene | 0.12 mg/m <sup>3</sup> |

 · **PAC-2:**

|          |                          |                       |
|----------|--------------------------|-----------------------|
| 75-09-2  | dichloromethane          | 560 ppm               |
| 205-99-2 | benz[e]acephenanthrylene | 1.3 mg/m <sup>3</sup> |

 · **PAC-3:**

|         |                 |           |
|---------|-----------------|-----------|
| 75-09-2 | dichloromethane | 6,900 ppm |
|---------|-----------------|-----------|

(Contd. on page 4)

## Safety Data Sheet

### acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 3)

205-99-2 benz[e]acephenanthrylene

 7.9 mg/m<sup>3</sup>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

**75-09-2 dichloromethane**

|     |  |
|-----|--|
| PEL | Short-term value: 125 ppm<br>Long-term value: 25 ppm<br>see 29 CFR 1910.1052 |
| REL | See Pocket Guide App. A  |
| TLV | Long-term value: 174 mg/m <sup>3</sup> , 50 ppm<br>BEI                       |

- **Ingredients with biological limit values:**

**75-09-2 dichloromethane**

|     |   |
|-----|---|
| BEI | 0.3 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Dichloromethane (semi-quantitative) |
|-----|---|

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

- **Breathing equipment:**

- When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not

(Contd. on page 5)

## Safety Data Sheet

### acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 4)

needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

- **Eye protection:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

|                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Fluid           |
| <b>Color:</b>          | Colorless       |
| <b>Odor:</b>           | Like chlorine   |
| <b>Odor threshold:</b> | Not determined. |

- **pH-value:** Not determined.

- **Change in condition**

|                                     |                      |
|-------------------------------------|----------------------|
| <b>Melting point/Melting range:</b> | -95.1 °C (-139.2 °F) |
| <b>Boiling point/Boiling range:</b> | 40 °C (104 °F)       |

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 605 °C (1,121 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

|               |          |
|---------------|----------|
| <b>Lower:</b> | 13 Vol % |
| <b>Upper:</b> | 22 Vol % |

- **Vapor pressure at 20 °C (68 °F):** 360 hPa (270 mm Hg)

(Contd. on page 6)

US

## Safety Data Sheet

### acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 5)

|   |  |
|---|--|
| · <b>Density at 20 °C (68 °F):</b>                                | 1.3 g/cm <sup>3</sup> (10.8485 lbs/gal)    |
| · <b>Relative density</b>   | Not determined.                            |
| · <b>Vapor density</b>  | Not determined.                            |
| · <b>Evaporation rate</b>   | Not determined.                            |
| · <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b> | 20 g/l                                     |
| · <b>Partition coefficient (n-octanol/water):</b>                 | Not determined.                            |
| · <b>Viscosity:</b>   |  |
| <b>Dynamic at 20 °C (68 °F):</b>                                  | 0.43 mPas                                  |
| <b>Kinematic:</b>   | Not determined.                            |
| · <b>Solvent content:</b>   |  |
| <b>Organic solvents:</b>  | 100.0 %                                    |
| <b>VOC content:</b>   | 0.00 %                                     |
|   | 0.0 g/l / 0.00 lb/gal                      |
| · <b>Solids content:</b>  | 0.0 %                                      |
| · <b>Other information</b>  | No further relevant information available. |

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

**LD/LC50 values that are relevant for classification:**
**ATE (Acute Toxicity Estimate)**

|            |          |                    |
|------------|----------|--------------------|
| Oral       | LD50     | 1,600 mg/kg (rat)  |
| Dermal     | LD50     | >2,000 mg/kg (rat) |
| Inhalative | LC50/4 h | 88 mg/L (rat)      |

**75-09-2 dichloromethane**

|            |          |                    |
|------------|----------|--------------------|
| Oral       | LD50     | 1,600 mg/kg (rat)  |
| Dermal     | LD50     | >2,000 mg/kg (rat) |
| Inhalative | LC50/4 h | 88 mg/L (rat)      |

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

(Contd. on page 7)

## Safety Data Sheet

### acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 6)

- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant
- **Carcinogenic categories**

**· IARC (International Agency for Research on Cancer)**

|          |                          |    |
|----------|--------------------------|----|
| 75-09-2  | dichloromethane          | 2A |
| 205-99-2 | benz[e]acephenanthrylene | 2B |

**· NTP (National Toxicology Program)**

|          |                          |   |
|----------|--------------------------|---|
| 75-09-2  | dichloromethane          | R |
| 205-99-2 | benz[e]acephenanthrylene | R |

**· OSHA-Ca (Occupational Safety & Health Administration)**

|         |                 |  |
|---------|-----------------|--|
| 75-09-2 | dichloromethane |  |
|---------|-----------------|--|

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **Not Regulated, De minimus Quantities** -

(Contd. on page 8)

## Safety Data Sheet

### acc. to OSHA HCS


Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 7)

|  |  |
|--|--|
| · UN-Number<br>· DOT, IMDG, IATA   | UN1593   |
| · UN proper shipping name<br>· DOT<br>· IMDG, IATA   | Dichloromethane<br>DICHLOROMETHANE   |
| · Transport hazard class(es)<br>· DOT, IMDG, IATA  |  |
|   |  |
| · Class<br>· Label   | 6.1 Toxic substances<br>6.1  |
| · Packing group<br>· DOT, IMDG, IATA   | III  |
| · Environmental hazards:   | Not applicable.  |
| · Special precautions for user<br>· Danger code (Kemler):<br>· EMS Number:<br>· Segregation groups<br>· Stowage Category | Warning: Toxic substances<br>60<br>F-A,S-A<br>Liquid halogenated hydrocarbons<br>A                                     |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  | Not applicable.  |
| · Transport/Additional information:  |  |
| · DOT<br>· Quantity limitations<br>· Hazardous substance:  | On passenger aircraft/rail: 60 L<br>On cargo aircraft only: 220 L<br>1000 lbs, 454 kg                                  |
| · IMDG<br>· Limited quantities (LQ)<br>· Excepted quantities (EQ)  | 5L<br>Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation":   | UN 1593 DICHLOROMETHANE, 6.1, III  |

### 15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture  
· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

(Contd. on page 9)



## Safety Data Sheet

### acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 8)

**· Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

**· TSCA (Toxic Substances Control Act):**

75-09-2 dichloromethane

**· Proposition 65**
**· Chemicals known to cause cancer:**

All ingredients are listed.

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

|          |                          |    |
|----------|--------------------------|----|
| 75-09-2  | dichloromethane          | L  |
| 205-99-2 | benz[e]acephenanthrylene | B2 |

**· TLV (Threshold Limit Value established by ACGIH)**

|          |                          |    |
|----------|--------------------------|----|
| 75-09-2  | dichloromethane          | A3 |
| 205-99-2 | benz[e]acephenanthrylene | A2 |

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

75-09-2 dichloromethane

**· National regulations:**
**· Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.  
Exceptions can be made by the authorities in certain cases.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

**· Department issuing SDS:** Document Control / Regulatory

**· Contact:** regulatory@ultrasci.com

**· Date of preparation / last revision** 03/30/2019 / 2

**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

(Contd. on page 10)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 03/30/2019

Version Number 3

Reviewed on 03/30/2019

**Trade name: Benzo(b)fluoranthene Standard (1X1 mL)**

(Contd. of page 9)

HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEI: Biological Exposure Limit  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Carc. 1B: Carcinogenicity – Category 1B  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· \* **Data compared to the previous version altered.**

US