

## MATERIAL SAFETY DATA SHEET

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Version 1.9

## Section 1 - Product and Company Information

Product Name BENZO K!FLUORANTHENE, FOR FLUORESCENCE  
Product Number 12488  
Brand FLUKA

Company Sigma-Aldrich Canada, Ltd  
Address 2149 Winston Park Drive  
Oakville ON L6H 6J8 CA

Technical Phone: 9058299500  
Fax: 9058299292  
Emergency Phone: 800-424-9300

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
BENZO(K)FLUORANTHENE	207-08-9	Yes

Formula C20H12  
Synonyms 8,9-Benzofluoranthene \* 11,12-Benzofluoranthene \*  
11,12-Benzo(k)fluoranthene \*  
2,3,1',8'-Binaphthylene \* Dibenzo(b,jk)fluorene  
RTECS Number: DF6350000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Toxic.

Irritating to eyes, respiratory system and skin. May cause cancer.  
Very toxic to aquatic organisms, may cause long-term adverse  
effects in the aquatic environment.

Probable Carcinogen (US). Calif. Prop. 65 carcinogen.

## HMIS RATING

HEALTH: 2\*

FLAMMABILITY: 0

REACTIVITY: 0

## NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is  
conscious. Call a physician.

#### INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

#### EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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### Section 5 - Fire Fighting Measures

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#### FLASH POINT

N/A

#### AUTOIGNITION TEMP

N/A

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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### Section 6 - Accidental Release Measures

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#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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### Section 7 - Handling and Storage

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#### HANDLING

User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Suitable: Keep tightly closed.

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### Section 8 - Exposure Controls / PPE

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143)

respirator.  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

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#### Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Solid Color: Yellow Form: Fine crystals	
Property	Value	At Temperature or Pressure
Molecular Weight	252.32 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	215 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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#### Section 10 - Stability and Reactivity

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##### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

##### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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#### Section 11 - Toxicological Information

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##### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.  
Eye Contact: Causes eye irritation.  
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.  
Ingestion: May be harmful if swallowed.

#### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Species: Rat

Route of Application: Implant

Dose: 5 MG/KG

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

Tumorigenic: Tumors at site or application.

Species: Mouse

Route of Application: Skin

Dose: 2820 MG/KG

Exposure Time: 47W

Frequency: I

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors. Tumorigenic: Tumors at site or application.

Species: Mouse

Route of Application: Subcutaneous

Dose: 72 MG/KG

Exposure Time: 9W

Frequency: I

Result: Tumorigenic: Tumors at site or application.

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.

#### IARC CARCINOGEN LIST

Rating: Group 2B

#### NTP CARCINOGEN LIST

Rating: Anticipated to be a carcinogen.

#### CHRONIC EXPOSURE - MUTAGEN

Species: Human

Dose: 120 UG/L

Cell Type: lymphocyte

Mutation test: Mutation in mammalian somatic cells.

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose

of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: Toxic solids, organic, n.o.s.  
UN#: 2811  
Class: 6.1  
Packing Group: Packing Group III  
Hazard Label: Toxic substances.  
PIH: Not PIH

### IATA

Proper Shipping Name: Toxic solid, organic, n.o.s.  
IATA UN Number: 2811  
Hazard Class: 6.1  
Packing Group: III

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## Section 15 - Regulatory Information

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### EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T-N  
Indication of Danger: Toxic. Dangerous for the environment.  
R: 45-50/53  
Risk Statements: May cause cancer. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
S: 53-45-60-61  
Safety Statements: Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic.  
Risk Statements: Irritating to eyes, respiratory system and skin. May cause cancer. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Safety Statements: Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.  
US Statements: Probable Carcinogen (US). Calif. Prop. 65 carcinogen.

### UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes  
NOTES: This product is subject to SARA section 313 reporting requirements.

### UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

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Section 16 - Other Information

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DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.