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## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : Heavily Contaminated Sediment Reference Material

Product Number : EDF-5184

Brand : Cerilliant

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

### 1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

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## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute aquatic toxicity (Category 3), H402  
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram : none

Signal word : none

Hazard statement(s)  
H412 : Harmful to aquatic life with long lasting effects.

Precautionary statement(s)  
P273 : Avoid release to the environment.  
P501 : Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

Synonyms : EDF-5184\_Cerilliant

#### Hazardous components

Component	Classification	Concentration
<b>Pyrene</b>		
CAS-No. 129-00-0 EC-No. 204-927-3	Muta. 2; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H341, H372, H410	< 0.1 %
<b>Anthracene</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 120-12-7 EC-No. 204-371-1	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; H315, H319, H335, H410	< 0.1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas, Tin/tin oxides, Cobalt/cobalt oxides, Arsenic oxides, Vanadium/vanadium oxides, Chromium oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas. Ensure adequate ventilation.  
For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.  
Storage class (TRGS 510): Non Combustible Liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Pyrene	129-00-0	TWA	0.200000 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.200000 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	1910.1002 As used in §1910.1000 (Table Z-1), coal tar pitch volatiles include the fused polycyclic hydrocarbons which volatilize from the distillation residues of coal, petroleum (excluding asphalt), wood, and other organic matter. Asphalt (CAS 8052-42-4, and CAS 64742-93-4) is not covered under the 'coal tar pitch volatiles' standard OSHA specifically regulated carcinogen		
		TWA	0.100000 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products. cyclohexane-extractable fraction See Appendix C See Appendix A		

Anthracene	120-12-7	TWA	0.200000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		1910.1002 As used in §1910.1000 (Table Z-1), coal tar pitch volatiles include the fused polycyclic hydrocarbons which volatilize from the distillation residues of coal, petroleum (excluding asphalt), wood, and other organic matter. Asphalt (CAS 8052-42-4, and CAS 64742-93-4) is not covered under the 'coal tar pitch volatiles' standard OSHA specifically regulated carcinogen		
		TWA	0.100000 mg/m3	USA. NIOSH Recommended Exposure Limits
		Potential Occupational Carcinogen NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products. cyclohexane-extractable fraction See Appendix C See Appendix A		

#### Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Pyrene	129-00-0	1-Hydroxypyrene (1-HP)		Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift at end of workweek			
Anthracene	120-12-7	1-Hydroxypyrene (1-HP)		Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift at end of workweek			

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.  
Discharge into the environment must be avoided.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

a) Appearance	Form: liquid
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

### **9.2 Other safety information**

No data available

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## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

No data available

### **10.2 Chemical stability**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

No data available

**10.5 Incompatible materials**

Strong oxidizing agents

**10.6 Hazardous decomposition products**

Other decomposition products - No data available

In the event of fire: see section 5

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**11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****Acute toxicity**

No data available

Inhalation: No data available

Dermal: No data available

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: Not available

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

Stomach - Irregularities - Based on Human Evidence (Lead)  
Nerves. - (Aroclor 1260)  
Kidney - (Pyrene)  
Stomach - Irregularities - Based on Human Evidence (Nickel)  
Stomach - Irregularities - Based on Human Evidence  
Blood -  
Stomach - Irregularities - Based on Human Evidence  
Heart -  
Stomach - Irregularities - Based on Human Evidence  
Blood - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Lungs -  
Kidney -  
Stomach - Irregularities - Based on Human Evidence  
Liver - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence

Kidney - Irregularities - Based on Human Evidence  
Skin - Dermatitis - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Nerves. -  
Stomach - Irregularities - Based on Human Evidence  
Liver - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Kidney -  
Stomach - Irregularities - Based on Human Evidence

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life with long lasting effects.

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## 15. REGULATORY INFORMATION

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Benz[e]acephenanthrylene	205-99-2	2007-03-01
Benzo[a]pyrene	50-32-8	2007-03-01

### SARA 311/312 Hazards

No SARA Hazards

### Massachusetts Right To Know Components

	CAS-No.	Revision Date
AROCLOR 1254	27323-18-8	1993-04-24
Pyrene	129-00-0	2008-11-03
Nickel	7440-02-0	2007-07-01
Chromium	7440-47-3	2007-07-01
Chrysene	218-01-9	1994-04-01
Benz[a]anthracene	56-55-3	1993-04-24
Benzo[a]pyrene	50-32-8	2007-03-01
Benzo[k]fluoranthene	207-08-9	1994-04-01
Chlordecone	143-50-0	1993-04-24
Arsenic	7440-38-2	2007-07-01
Benz[e]acephenanthrylene	205-99-2	2007-03-01
Indeno[1,2,3-cd]pyrene	193-39-5	1993-04-24
2,2-bis(p-Chlorophenyl)-1,1-dichloroethylene	72-55-9	1993-04-24

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Soil	-	

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Soil	-	

### California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	86-73-7	2007-09-28
Fluorene		
bis(2-Ethylhexyl) phthalate	117-81-7	2009-02-01
1,4-Dichlorobenzene	106-46-7	2007-09-28
Trichloroethylene	79-01-6	2011-09-01
Indeno[1,2,3-cd]pyrene	193-39-5	2007-09-28



Aroclor 1260	11096-82-5	2008-08-01
Methyl iodide	74-88-4	2007-09-28
Beryllium foil	7440-41-7	2008-10-10
Chlordecone	143-50-0	2007-09-28
Lead	7439-92-1	1989-07-10
Nickel	7440-02-0	2007-09-28
Arsenic	7440-38-2	2008-10-10
Cadmium	7440-43-9	2009-02-01
Cobalt	7440-48-4	2007-09-28
PCB	38444-93-8	2008-08-01
AROCLOR 1254	27323-18-8	2008-08-01
Benz[a]anthracene	56-55-3	2007-09-28
Methylene chloride	75-09-2	2007-09-28
Ethylbenzene	100-41-4	2007-09-28
2,2-bis(p-Chlorophenyl)-1,1-dichloroethylene	72-55-9	2010-06-11
Dieldrin	60-57-1	2007-09-28
Pyrene	129-00-0	2007-09-28
Benz[e]acephenanthrylene	205-99-2	2007-09-28
Chrysene	218-01-9	2007-09-28
Benzo[k]fluoranthene	207-08-9	2007-09-28
Benzo[a]pyrene	50-32-8	1990-01-01
Dibenz[a,h]anthracene	53-70-3	2007-09-28
Anthracene	120-12-7	2007-09-28
Acenaphthylene	208-96-8	2007-09-28
Naphthalene	91-20-3	1990-01-01
Benzo[ghi]perylene	191-24-2	2007-09-28
Acenaphthene	83-32-9	2007-09-28
Phenanthrene	85-01-8	2007-09-28

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	CAS-No.	Revision Date
AROCLOR 1254	27323-18-8	2008-08-01
PCB	38444-93-8	2008-08-01
Cadmium	7440-43-9	2009-02-01
Mercury	7439-97-6	2013-12-20
Lead	7439-92-1	1989-07-10
Chlordecone	143-50-0	2007-09-28
Carbon disulphide	75-15-0	2008-06-17
Aroclor 1260	11096-82-5	2008-08-01
Trichloroethylene	79-01-6	2011-09-01
bis(2-Ethylhexyl) phthalate	117-81-7	2009-02-01
2,2-bis(p-Chlorophenyl)-1,1-dichloroethylene	72-55-9	2010-06-11
Bromomethane	74-83-9	2009-02-01
Toluene	108-88-3	2009-02-01

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Irrit.	Eye irritation

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H372	Causes damage to organs (/*_ORGAN_REPEAT*/) through prolonged or repeated exposure.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Muta.	Germ cell mutagenicity
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

#### HMIS Rating

Health hazard:	0
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

#### NFPA Rating

Health hazard:	0
Fire Hazard:	0
Reactivity Hazard:	0

#### Further information

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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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

#### Preparation Information

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Product Safety – Americas Region  
1-800-521-8956

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