



MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 03/11/2013

Version 1.0

SECTION 1. Identification

Product identifier

Product number	820109
Product name	Anthracene for synthesis

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

Identified uses	Use restricted under TSCA to research and development or as analytical reagent. Uses regulated under FDA or FIFRA are not affected. Chemical for synthesis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America SDS Phone Support: +1-978-715-1335 General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) e-mail: mm_sds@merckgroup.com
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Acute aquatic toxicity, Category 1, H400
Chronic aquatic toxicity, Category 1, H410

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

GHS-Labeling

Hazard pictograms



Signal Word
Warning

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Hazard Statements

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P273 Avoid release to the environment.

OSHA Hazards

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	C ₁₄ H ₁₀ (Hill)
CAS-No.	120-12-7
Molar mass	178.23 g/mol

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

phenanthrene (>= 1 % - < 5 %)

85-01-8

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact

After eye contact: rinse out with plenty of water.

Ingestion

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Dermatitis, gastric pain, Diarrhea, Nausea

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

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Suitable extinguishing media

Water, Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Development of hazardous combustion gases or vapors possible in the event of fire.

Forms explosive mixtures with air on intense heating.

Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Ensure adequate ventilation.

Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Protected from light. Tightly closed. Dry.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

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Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Application of skin- protective barrier cream recommended.
Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	solid
Color	light gray
Odor	weak characteristic odor
Odor Threshold	No information available.
pH	No information available.
Melting point	213 - 216 °C
Boiling point/boiling range	644 °F (340 °C) at 1,013 hPa
Flash point	250 °F (121 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	0.6 %(V)
Upper explosion limit	No information available.

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Vapor pressure	0.000008 hPa at 77 °F (25 °C)
Relative vapor density	6.15
Relative density	No information available.
Water solubility	< 0.0001 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 4.54 OECD Test Guideline 107 Potential bioaccumulation
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Ignition temperature	1004 °F (540 °C)
Bulk density	ca. 330 kg/m ³

SECTION 10. Stability and reactivity

Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Forms explosive mixtures with air on intense heating.

Chemical stability

Sensitivity to light
sublimable

Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents, halogens, acids

Risk of explosion with:

calcium hypochlorite, chromium(VI) oxide, Fluorine

Conditions to avoid

Strong heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Incompatible materials

no information available

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Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

LD50 rat: > 16,000 mg/kg (IUCLID)

Symptoms: Nausea, Diarrhea, gastric pain

Skin irritation

rabbit

Result: slight irritation

(IUCLID)

Possible damages: Dermatitis

Eye irritation

rabbit

Result: No eye irritation

(IUCLID)

Sensitization

May cause photosensitization.

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

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However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 0.0013 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 0.095 mg/l; 48 h (ECOTOX Database)

Persistence and degradability

Ratio BOD/ThBOD

BOD5 2 %
(IUCLID)

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 4.54

OECD Test Guideline 107

Potential bioaccumulation

Mobility in soil

No information available.

Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (ANTHRACENE)

Class 9

Packing group III

Environmentally hazardous --

Air transport (IATA)

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UN number UN 3077
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ANTHRACENE)
Class 9
Packing group III
Environmentally hazardous --
Special precautions for user no

Sea transport (IMDG)

UN number UN 3077
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ANTHRACENE)
Class 9
Packing group III
Environmentally hazardous --
Special precautions for user yes
EmS F-A S-F

SECTION 15. Regulatory information

United States of America

OSHA Hazards

No OSHA Hazards

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

No SARA Hazards

SARA 313

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

Ingredients

anthracene	120-12-7
phenanthrene	85-01-8

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SARA 302

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

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

Massachusetts Right To Know

Ingredients

anthracene

phenanthrene

Pennsylvania Right To Know

Ingredients

anthracene

phenanthrene

New Jersey Right To Know

Ingredients

anthracene

phenanthrene

Notification status

TSCA:

Not Listed on TSCA inventory. For Research and Development Use only. Not For Manufacturing or Commercial Purposes.

Ingredients

naphthothiophene

DSL:

This product contains one or several components that are not on the Canadian DSL nor NDSL.

Ingredients

Acridine

naphthothiophene

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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

H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Date of issue:03/11/2013

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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