

MATERIAL SAFETY DATA SHEET

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Version 1.4

Section 1 - Product and Company Information

Product Name	ANTHRACENE, 95%
Product Number	A89219
Brand	ALDRICH
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ANTHRACENE	120-12-7	Yes

Formula	C14H10
Synonyms	Anthracen (German) * Anthracin * Coal tar pitch volatiles:anthracene (OSHA) * Green Oil * Paranaphthalene * Tetra Olive N2G
RTECS Number:	CA9350000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritant. Dangerous for the environment.
Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Photosensitizer. Lachrymator. Target organ(s): Lungs. Kidneys.

HMIS RATING

HEALTH: 3*
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING

HEALTH: 3
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.

Section 5 - Fire Fighting Measures

FLASH POINT

249.8 °F 121 °C Method: closed cup

EXPLOSION LIMITS

Lower: 0.6 %

AUTOIGNITION TEMP

540 °C

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.

Section 6 - Accidental Release Measures

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.

Section 7 - Handling and Storage

HANDLING

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

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

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

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	OSHA.	PEL	8H TWA 0.2 MG/M3

Section 9 - Physical/Chemical Properties

Appearance	Color: Faintly beige Form: Fine crystals		
Property	Value	At Temperature or Pressure	
Molecular Weight	178.23 AMU		
pH	N/A		
BP/BP Range	340 °C	760 mmHg	
MP/MP Range	214 °C		
Freezing Point	N/A		
Vapor Pressure	1 mmHg	145 °C	
Vapor Density	6.15 g/l		
Saturated Vapor Conc.	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	Log Kow: 4.45		
Decomposition Temp.	N/A		
Flash Point	249.8 °F 121 °C	Method: closed cup	
Explosion Limits	Lower: 0.6 %		
Flammability	N/A		
Autoignition Temp	540 °C		
Refractive Index	N/A		
Optical Rotation	N/A		
Miscellaneous Data	N/A		
Solubility	N/A		

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Hypochlorites, Chromic acid, Fluorine.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

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

SENSITIZATION

Sensitization: Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburnlike responses to edematous, vesiculated lesions, or bullae

TARGET ORGAN(S) OR SYSTEM(S)

Lungs. Kidneys. Bladder. Blood.

SIGNS AND SYMPTOMS OF EXPOSURE

Possible tumor promoter. Exposure can cause: Headache. Nausea. Weakness.

TOXICITY DATA

Intraperitoneal
Mouse
430 MG/KG
LD50

IRRITATION DATA

Skin
Mouse
0.118 mg
Remarks: Mild irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat
Route of Application: Oral
Dose: 20 GM/KG
Exposure Time: 79W
Frequency: I
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.

Species: Rat
Route of Application: Subcutaneous
Dose: 3300 MG/KG
Exposure Time: 33W
Frequency: I
Result: Tumorigenic: Neoplastic by RTECS criteria.
Tumorigenic: Tumors at site of application.

Species: Rat
Route of Application: Subcutaneous
Dose: 660 MG/KG
Exposure Time: 33W
Frequency: I
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS

criteria. Tumorigenic:Tumors at site or application.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Dose: 108 UG/PLATE
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Rat
Dose: 300 UMOL/L
Cell Type: liver
Mutation test: DNA damage

Species: Mouse
Route: Intraperitoneal
Dose: 100 MG/KG
Mutation test: Micronucleus test

Species: Mouse
Dose: 500 UG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Mouse
Dose: 47400 NMOL/L
Cell Type: lymphocyte
Mutation test: DNA damage

Species: Mouse
Dose: 125 MG/KG
Cell Type: S. typhimurium
Mutation test: Host-mediated assay

Species: Hamster
Dose: 193 MG/L
Cell Type: kidney
Mutation test: Morphological transformation.

Species: Hamster
Dose: 15 MG/L
Cell Type: lung
Mutation test: Cytogenetic analysis

Mutation test: Histidine reversion (Ames)

Section 12 - Ecological Information

ACCUMULATION

Bioaccumulation Potential: Indication of bioaccumulation.

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 0.095 mg/l

Test Type: LC50 Fish
Species: Lepomis macrochirus (Bluegill)
Time: 96 h
Value: 0.001 mg/l

Section 13 - Disposal Considerations

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.

Section 14 - Transport Information

DOT

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.
UN#: 3077
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
IATA UN Number: 3077
Hazard Class: 9
Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi N
Indication of Danger: Irritant. Dangerous for the environment.
R: 36/37/38 50/53
Risk Statements: Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 26 60 61
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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: Irritant. Dangerous for the environment.
Risk Statements: Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. 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: Photosensitizer. Lachrymator. Target organ(s): Lungs. Kidneys.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

DEMINIMIS: 1 %

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

TSCA INVENTORY ITEM: Yes

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: Yes

NDSL: No

Section 16 - Other Information

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. 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 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.