Material Safety Data Sheet

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Version 1.6
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	ANTHRACENE 99+%
Product Number	A3885
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
ANTHRACENE	120-12-7	204-371-1	None

Formula	C14H10
Molecular Weight	178.23 AMU
Synonyms	Anthracen (German) * Anthracin * Coal tar pitch volatiles:anthracene (OSHA) * Green Oil * Paranaphthalene * Tetra Olive N2G

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4 - First Aid Measures

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

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

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

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

5 - Fire Fighting Measures

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

SPECIAL RISKS
Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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.

7 - Handling and Storage

HANDLING
Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Color: Faintly beige Form: Fine crystals

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	340 °C	760 mmHg
MP/MP Range	214 °C	
Flash Point	121 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	540 °C	
Oxidizing Properties	N/A	

Explosive Properties	N/A	
Explosion Limits	Lower: 0.6 %	
Vapor Pressure	1 mmHg	145 °C
SG/Density	N/A	
Partition Coefficient	Log Kow: 4.45	
Viscosity	N/A	
Vapor Density	6.15 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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

11 - Toxicological Information

RTECS NUMBER: CA9350000

ACUTE TOXICITY

LD50
Intraperitoneal
Mouse
430 MG/KG

IRRITATION DATA

Skin
Mouse
0.118 mg
Remarks: Mild irritation effect

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

SIGNS AND SYMPTOMS OF EXPOSURE
Possible tumor promoter. Exposure can cause: Headache. Nausea. Weakness.

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.

TARGET ORGAN INFORMATION
Lungs. Kidneys. Bladder. Blood.

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.

Rat
Route of Application: Oral
Exposure Time: 79W
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors.

Rat
Route of Application: Subcutaneous
Exposure Time: 33W
Result: Tumorigenic:Neoplastic by RTECS criteria. Tumorigenic:Tumors at site or application.

Rat
Route of Application: Subcutaneous
Exposure Time: 33W
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Tumorigenic:Tumors at site or application.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Rat
108 UG/PLATE
Cell Type: Embryo
Morphological transformation.

Rat
300 UMOL/L
Cell Type: liver
DNA damage

Mouse
100 MG/KG
Intraperitoneal
Micronucleus test

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

Mouse
47400 NMOL/L
Cell Type: lymphocyte
DNA damage

Mouse
125 MG/KG
Cell Type: S. typhimurium
Host-mediated assay

Hamster
193 MG/L
Cell Type: kidney
Morphological transformation.

Hamster
15 MG/L
Cell Type: lung
Cytogenetic analysis

ZNEG
Histidine reversion (Ames)

12 - Ecological Information

BIOACCUMULATION POTENTIAL: Indication of bioaccumulation.

ECOTOXICOLOGICAL EFFECTS
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

13 - Disposal Considerations

SUBSTANCE DISPOSAL
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.

14 - Transport Information

RID/ADR
UN#: 3077
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

IMDG
UN#: 3077
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA
UN#: 3077
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xi N
Irritant. Dangerous for the environment.

R-PHRASES: 36/37/38 50/53
Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-PHRASES: 26 60 61
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.

COUNTRY SPECIFIC INFORMATION

Germany
WGK: 2

SWITZERLAND
SWISS POISON CLASS: 4

16 - Other Information

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

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