

SAFETY DATA SHEET

Version 6.4
Revision Date 2021.08.31
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Product Number Aldrich - 141062

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- a. Product name : Anthracene
- Product Number : 141062
- Brand : Aldrich
- b. Recommended use of the chemical and restrictions on use : **Identified uses**
Laboratory chemicals, For research use only.
- c. Company : 씨그마알드리치코리아(유)
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월요일 - 금요일 (공휴일 제외)

SECTION 2: Hazards identification**a. GHS Classification**

Carcinogenicity (Category 1A)
Carcinogenicity (Category 1B)
Carcinogenicity (Category 2)
Reproductive toxicity (Category 1B)
Short-term (acute) aquatic hazard (Category 1)
Long-term (chronic) aquatic hazard (Category 1)

b. GHS-Labeling

Pictogram



Signal word

Danger

Hazard statement(s)

H350	May cause cancer.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)**Prevention**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P391	Collect spillage.

Storage

P405	Store locked up.
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Disposal

P501	Dispose of contents and container according to wastes control act.
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c. Other hazards which do not result in classification

Photosensitizer., Lachrymator.

SECTION 3: Composition/information on ingredients**3a Substances**

Formula	: C ₁₄ H ₁₀
Molecular weight	: 178.23 g/mol
CAS-No.	: 120-12-7
EC-No.	: 204-371-1

Component		Classification	Concentration
anthracene			
CAS-No.	120-12-7	2; Aquatic Acute 1; Aquatic Chronic 1; H319, H400, H410 M-Factor - Aquatic Acute: 1,000	>=95 - <= 100 %
EC-No.	204-371-1		

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

SECTION 4: First aid measures

a. In case of eye contact

Flush eyes with water as a precaution.

b. In case of skin contact

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

c. If inhaled

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

d. If swallowed

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

e. Most important acute symptoms/effects

No data available

Most important delayed symptoms/effects

No data available

f. Notes to physician

No data available

General advice

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

SECTION 5: Firefighting measures

a. Suitable extinguishing media

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

b. Specific hazards arising from the chemical

No data available

c. Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

a. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

b. 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.

c. Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

a. Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

b. Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

c. Storage class

Storage class (TRGS 510): 11: Combustible Solids

SECTION 8: Exposure controls/personal protection**a. Control parameters**

Components	CAS-No.	Value	Control parameters	Basis
anthracene	120-12-7	TWA	0.2 mg/m ³	KR OEL
Remarks	Sufficient evidence of carcinogenicity in humans Presumed human reproductive toxicant			
anthracene	120-12-7	TWA	0.2 mg/m ³	KR OEL
	Sufficient evidence of carcinogenicity in test animals or limited evidence of carcinogenicity in both animal and human testing. Carcinogenicity depends on the type of particles			
anthracene	120-12-7	TWA	0.2 mg/m ³	KR OEL
	Limited evidence of carcinogenicity in humans or animals, which is not sufficiently convincing to place the substance in Category 1 Carcinogenicity depends on the type of particles			
anthracene	120-12-7	TWA	0.2 mg/m ³	KR OEL
	Sufficient evidence of carcinogenicity in humans Carcinogenicity depends on the type of particles			
anthracene	120-12-7	TWA	0.2 mg/m ³	KR PEL

b. Appropriate engineering controls

No data available

c. Personal protective equipment**Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Chloroprene

Minimum layer thickness: 0.6 mm

Break through time: 480 min

Material tested: Camapren® (KCL 722 / Aldrich Z677493, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 30 min
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

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

Skin and body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

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

SECTION 9: Physical and chemical properties

a. Appearance

Form	crystalline
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Color	beige
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b. Odor	No data available
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c. Odor Threshold	No data available
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d. pH	No data available
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e. Melting point	210 - 215 °C - lit.
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f. Initial boiling point	340 °C - lit.
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g. Flash point	121.0 °C - closed cup
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h. Evaporation rate	No data available
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i. Flammability (solid, gas)	No data available
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j. Lower explosion limit	0.6 %(V)
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k. Vapor pressure	1.3 hPa at 145.0 °C
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l. Water solubility	No data available
m. Relative vapor density	No data available
n. Density	No data available
o. Partition coefficient: n-octanol/water	log Pow: 4.65 at ca.20 °C
p. Autoignition temperature	540 °C
q. Decomposition temperature	No data available
r. Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
s. Molecular weight	178.23 g/mol

SECTION 10: Stability and reactivity

a. Chemical stability

Stable under recommended storage conditions.

b. Possibility of hazardous reactions

No data available

c. Conditions to avoid

No data available

d. Incompatible products

Strong oxidizing agents, Hypochlorites

e. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

Thermal decomposition

No data available

SECTION 11: Toxicological information

a. Information on likely routes of exposure

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion

May be harmful if swallowed.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

b. Delayed and immediate effects and also chronic effects from short and long term exposure

Acute toxicity

LD50 Oral - Rat - male and female - > 16,000 mg/kg

Remarks: (ECHA)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 1,320 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit - No skin irritation - 24 h

Remarks: (ECHA)

Possible damages: Dermatitis

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Intracutaneous test - Guinea pig - negative

Remarks: (ECHA)

Carcinogenicity

No data available

Germ cell mutagenicity

Genotoxicity in vitro

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Metabolic activation: Metabolic activation

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vitro

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Genotoxicity in vitro

Test Type: Chromosome aberration test in vitro

Test system: rat hepatocytes

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Genotoxicity in vivo

Test Type: In vivo micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

Reproductive toxicity

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

Signs and Symptoms of Exposure

Possible tumor promoter., Headache, Nausea, Weakness

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

c. Numerical measures of toxicity

No data available

Additional Information**Further information**

Handle in accordance with good industrial hygiene and safety practice.

(anthracene)However, when the product is handled appropriately, hazardous effects are unlikely to occur.

(anthracene)

SECTION 12: Ecological information**a. Ecotoxicity effects**

Toxicity to fish flow-through test LC50 - *Lepomis macrochirus* (Bluegill) - 0.002 mg/l
- 96.0 h
Remarks: (ECHA)

Toxicity to daphnia static test LC50 - *Daphnia magna* (Water flea) - 0.036 mg/l - 48 h
and other aquatic (OECD Test Guideline 202)
invertebrates

b. Elimination information (persistence and degradability)

Biodegradability aerobic - Exposure time 28 d
Result: 3.6 % - Not readily biodegradable.
(OECD Test Guideline 302C)

c. Bioaccumulative potential

Bioaccumulation *Cyprinus carpio* (Carp) - 42 d
at 25 °C - 0.015 mg/l(anthracene)

Bioconcentration factor (BCF): 2,615
(OECD Test Guideline 305)

d. Mobility in soil

No data available

e. Other adverse effects

Very toxic to aquatic life with long lasting effects.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

a. Disposal methods

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

b. Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (anthracene)
Marine pollutant : yes

IATA

UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (anthracene)

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 15: Regulatory information

a. Regulation under the Occupational Safety and Health Act

Harmful Substances Required Permission for Manufacture - Not applicable

Harmful Substances Prohibited from Manufacturing - Not applicable

Harmful Agents to be kept below Occupational Exposure Limits - anthracene, CAS 120-12-7

Controlled Substances Subject to Environment Monitoring - anthracene, CAS 120-12-7

Controlled Substances Subject to Health Examination - anthracene, CAS 120-12-7

Hazardous substances requiring management - Not applicable

Special Management Materials - Not applicable

Occupational exposure limit substances - Please refer to chapter 8

b. Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

Toxic Chemicals - Not applicable

Restricted Chemicals - Not applicable

Prohibited Chemicals - Not applicable

Accident Precaution Chemicals - Not applicable

c. Dangerous Substances Safety Management Act

Not Applicable to Dangerous Materials

d. Waste Control Act

Follow article 13 of the act to dispose the product waste

e. Other regulations

KECI Number

On the inventory, or in compliance with the inventory

SECTION 16: Other information

a. List of references

b. Issuing date: 2019.10.17

c. Version: 6.4 Revision Date 2021.08.31

e. Further information

Text of H-code(s) and R-phrases mentioned in Section 3

H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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