

SAFETY DATA SHEET

Version 6.6
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Product Number Aldrich - 185515

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

- a. Product name : Pyrene
- Product Number : 185515
- 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

Rapidly absorbed through skin.

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

Synonyms	:	Benzo[def]phenanthrene
Formula	:	C ₁₆ H ₁₀
Molecular weight	:	202.25 g/mol
CAS-No.	:	129-00-0
EC-No.	:	204-927-3

Component		Classification	Concentration
Pyrene			
CAS-No.	129-00-0	Aquatic Acute 1; Aquatic Chronic 1; H400, H410	>=95 - <= 100 %
EC-No.	204-927-3		

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**

After eye contact: rinse out with plenty of water. Remove contact lenses.

b. In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

c. If inhaled

After inhalation: fresh air.

d. If swallowed

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

e. Most important acute symptoms/effects

No data available

Most important delayed symptoms/effects

No data available

f. Notes to physician

No data available

SECTION 5: Firefighting measures**a. Suitable extinguishing media**

Water Foam Carbon dioxide (CO₂) Dry powder

Extinguishing media which shall not be used for safety reasons

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

b. Specific hazards arising from the chemical

Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

c. Special protective actions 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**a. Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

b. Environmental precautions

Do not let product enter drains.

c. 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**a. Precautions for safe handling****b. Conditions for safe storage**

Tightly closed. Dry.

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
Pyrene	129-00-0	TWA	0.2 mg/m ³	KR OEL
Remarks	Sufficient evidence of carcinogenicity in humans Presumed human reproductive toxicant			
Pyrene	129-00-0	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 particules			
Pyrene	129-00-0	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 particules			
Pyrene	129-00-0	TWA	0.2 mg/m ³	KR OEL
	Sufficient evidence of carcinogenicity in humans Carcinogenicity depends on the type of particules			
Pyrene	129-00-0	TWA	0.2 mg/m ³	KR PEL

b. Appropriate engineering controls

No data available

c. Personal protective equipment**Respiratory protection**

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Hand protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatrill® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Eye protection

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

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

SECTION 9: Physical and chemical properties

a. Appearance

Form solid

Color yellow

b. Odor No data available

c. Odor Threshold No data available

d. pH No data available

e. Melting point 145 - 148 °C - lit.

f. Initial boiling point 404 °C at 1,013.25 hPa

g. Flash point ca.224 °C at ca.1,013.25 hPa

h. Evaporation rate No data available

i. Flammability
(solid, gas) No data available

j. Lower explosion
limit No data available

Upper explosion
limit No data available

k. Vapor pressure ca.0.002 hPa at ca.20 °C - OECD Test Guideline 104

l. Water solubility ca.0.1 g/l at 25 °C - OECD Test Guideline 105

m. Relative vapor
density No data available

n. Density	1.27 g/cm ³ at 23 °C -
o. Partition coefficient: n-octanol/water	log Pow: ca.5.43 at 30 °C - OECD Test Guideline 117 - Potential bioaccumulation
p. Autoignition temperature	No data available
q. Decomposition temperature	No data available
r. Viscosity, dynamic	No data available
Viscosity, kinematic	ca.1.8 mm ² /s at 150 °C - OECD Test Guideline 114
s. Molecular weight	202.25 g/mol

SECTION 10: Stability and reactivity

a. Chemical stability

No data available

b. Possibility of hazardous reactions

Risk of dust explosion.

c. Conditions to avoid

Strong heating.

d. Incompatible products

No data available

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

No data available

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

Acute toxicity

LD50 Oral - Rat - 2,700 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation.

Behavioral:Excitement.

Behavioral:Muscle contraction or spasticity.

(RTECS)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit - slight irritation

Remarks: (External MSDS)

Serious eye damage/eye irritation

Eyes - Rabbit - No eye irritation

Remarks: (External MSDS)

Respiratory or skin sensitization

No data available

Carcinogenicity

No data available

Germ cell mutagenicity

No data available

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

Inhalation studies in animals have caused: , Liver toxicity, pulmonary pathologies, intragastric pathologies, neutropenia, leukopenia, anemia, Contact with skin can cause: , hyperemia, weight loss, hematopoietic changes, Dermatitis, Chronic effects, leukocytosis

c. Numerical measures of toxicity

No data available

Additional Information

Repeated dose toxicity - Mouse - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 76 mg/kg - LOAEL (Lowest observed adverse effect level) - 125 mg/kg

RTECS: UR2450000

Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

(Pyrene)Handle in accordance with good industrial hygiene and safety practice.

(Pyrene)

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

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - > 2 mg/l - 96 h Remarks: (External MSDS)
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Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0.002 - 0.003 mg/l - 48 h Remarks: (External MSDS)
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b. Elimination information (persistence and degradability)

Biodegradability	Result: 13 % - Not readily biodegradable.
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Remarks: (HSDB)

c. Bioaccumulative potential

Bioaccumulation Fish - 2 d
 - 0.056 mg/l(Pyrene)

Bioconcentration factor (BCF): 4,810
Remarks: (External MSDS)

d. Mobility in soil

No data available

e. Other adverse effects

No data available

SECTION 13: Disposal considerations

a. Disposal methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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.
(Pyrene)
Marine pollutant : yes

IATA

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

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 - Pyrene,CAS 129-00-0

Harmful Substances Prohibited from Manufacturing - Not applicable

Harmful Agents to be kept below Occupational Exposure Limits - Pyrene,CAS 129-00-0

Controlled Substances Subject to Environment Monitoring - Pyrene,CAS 129-00-0

Controlled Substances Subject to Health Examination - Pyrene,CAS 129-00-0

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: 2019.09.16

c. Version: 6.6 Revision Date 2021.11.29

e. Further information

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

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

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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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