

## Chemical Safety Data Sheet MSDS / SDS

**Acenaphthene**

Revision Date:2026-05-31 Revision Number:1

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

Product name : Acenaphthene  
CBnumber : CB7854448  
CAS : 83-32-9  
EINECS Number : 201-469-6  
Synonyms : Acenaphthene,1,2-dihydroacenaphthylene

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

**Precautionary statements**

P501 Dispose of contents/container to....  
P391 Collect spillage. Hazardous to the aquatic environment  
P273 Avoid release to the environment.

**Hazard statements**

H410 Very toxic to aquatic life with long lasting effects

**SECTION 3: Composition/information on ingredients****Substance**

Product name	: Acenaphthene
Synonyms	: Acenaphthene, 1,2-dihydroacenaphthylene
CAS	: 83-32-9
EC number	: 201-469-6
MF	: C12H10
MW	: 154.21

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## SECTION 4: First aid measures

### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.

### Inhalation

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

### Ingestion

Clean mouth with water. Get medical attention.

### Most important symptoms and effects

No information available.

### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### Notes to Physician

Treat symptomatically.

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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

### Extinguishing media which must not be used for safety reasons

No information available.

### Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

FIRE 1

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

SPEC.

HAZ.

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## SECTION 6: Accidental release measures

### Personal Precautions

Ensure adequate ventilation.

### Environmental Precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

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## SECTION 7: Handling and storage

### Handling

Avoid contact with skin and eyes. Do not breathe dust.

### Storage

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

### Specific Use(s)

Use in laboratories

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## SECTION 8: Exposure controls/personal protection

### Control Parameters

### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

### Exposure Controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

### Personal protective equipment

#### Eye Protection

Goggles (European standard - EN 166)

#### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers	-	EN 374	(minimum requirement)
Neoprene	recommendations			
Natural rubber				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

#### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

#### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particulates filter conforming to EN 143

### **Small scale/Laboratory use**

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001

When RPE is used a face piece Fit Test should be conducted

### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### **Environmental exposure controls**

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

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## **SECTION 9: Physical and chemical properties**

### **Information on basic physicochemical properties**

Brown

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#### **Physical State**

Solid

#### **Odor**

No information available

#### **Odor Threshold**

No data available

#### **pH**

Not applicable

#### **Melting Point/Range**

90 - 95 °C / 194 - 203 °F

#### **Softening Point**

No data available

#### **Boiling Point/Range**

279 °C / 534.2 °F

#### **Flash Point**

135 °C / 275 °F Method - No information available

#### **Evaporation Rate**

Not applicable Solid

**Flammability (solid,gas)**

No information available

**Explosion Limits**

No data available

**Vapor Pressure**

10 mmHg @ 131 °C

**Vapor Density**

Not applicable Solid

**Specific Gravity / Density**

1.060

**Bulk Density**

1.06

**Water Solubility**

Insoluble

**Solubility in other solvents**

chloroform: 50 mg/mL, clear

**Partition Coefficient (n-octanol/water)**

No data available

**desc\_info**

Component: Acenaphthene log Pow: 4.04

**Autoignition Temperature**

450 °C / 842 °F

**Decomposition Temperature**

No data available

**Viscosity**

Not applicable Solid

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**Molecular Formula**

C12 H10

### **Molecular Weight**

154.21

### **Colour**

brown-beige

### **Henry's Law Constant**

3.47, 6.21, 10.8, 18.3, and 28.2 at 4.1, 11.0, 18.0, 25.0, and 31.0 °C, respectively (Bamford et al., 1998)

### **Dielectric constant**

3.0

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## SECTION 10: Stability and reactivity

### **Stability**

Stable under normal conditions.

### **Hazardous Reactions**

No information available.

### **Hazardous Polymerization**

No information available.

### **Conditions to Avoid**

Excess heat. Incompatible products.

### **Materials to avoid**

Strong oxidizing agents. Metals. Strong acids.

### **Hazardous Decomposition Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

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## SECTION 11: Toxicological information

### **Product Information**

#### **(a) acute toxicity;**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acenaphthene	LD50 = 10000 mg/kg ( Rat )		

#### **(b) skin corrosion/irritation;**

Category 2

**(c) serious eye damage/irritation;**

Category 2

**(d) respiratory or skin sensitization;**

**Respiratory**

No data available

**Skin**

No data available

**(e) germ cell mutagenicity;**

No data available

**(f) carcinogenicity;**

No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;**

No data available

**(h) STOT-single exposure;**

Category 3

**Results / Target organs**

Respiratory system

**(i) STOT-repeated exposure;**

No data available

**Target Organs**

No information available.

**(j) aspiration hazard;**

Not applicable

Solid

**Other Adverse Effects**

The toxicological properties have not been fully investigated.

**Symptoms / effects, both acute and delayed**

No information available

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## SECTION 12: Ecological information

## Ecotoxicity effects

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Acenaphthene	LC50: 0.6 - 0.75 mg/L, 96h flow-through (Oncorhynchus mykiss)	EC50: = 41 mg/L, 48h (Daphnia magna)		
	LC50: 1.3 - 2.1 mg/L, 96h static (Lepomis macrochirus)	EC50: = 3.45 mg/L, 48h (Daphnia magna)	EC50: 0.23 - 1.15 mg/L, 96h (Pseudokirchneriella subcapitata)	EC50 = 0.58 mg/L 15 min
	LC50: = 0.509 mg/L, 96h flow-through (Pimephales promelas)	EC50: 1.102 - 1.475 mg/L, 48h Static (Daphnia magna)		

## Persistence and Degradability

### Persistence

May persist.

### Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste

### water treatment plants.

### Bioaccumulative Potential

Product has a high potential to bioconcentrate

Component	log Pow	Bioconcentration factor (BCF)
Acenaphthene	4.04	387 dimensionless

### Mobility in soil

Spillage unlikely to penetrate soil The product is insoluble and sinks in water Is not likely mobile in the environment due its low water solubility

Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

### Persistent Organic Pollutant

This product does not contain any known or suspected substance

### Ozone Depletion Potential

This product does not contain any known or suspected substance

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## SECTION 13: Disposal considerations

### Waste from Residues/Unused Products

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

## Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

## Other Information

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

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# SECTION 14: Transport information

## Road and Rail Transport

### UN-No

UN3077

### Proper Shipping Name

Environmentally hazardous substances, solid, n.o.s.

### Technical Shipping Name

Acenaphthene

### Hazard Class

9

### Packing Group

III

## IMDG/IMO

### UN-No

UN3077

### Proper Shipping Name

Environmentally hazardous substances, solid, n.o.s.

### Technical Shipping Name

Acenaphthene

### Hazard Class

9

### Packing Group

III

## IATA

### UN-No

UN3077

### Proper Shipping Name

Environmentally hazardous substances, solid, n.o.s.

### Technical Shipping Name

Acenaphthene

### Hazard Class

9

**Packing Group**

III

**Special Precautions for User**

No special precautions required

**SECTION 15: Regulatory information****International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Acenaphthene	X	-	X	X	201-469-6	X	X	X	X	X	X	KE-10602

**National Regulations****SECTION 16: Other information****Prepared By**

Health, Safety and Environmental Department

**Creation Date**

04-Jun-2010

**Revision Date**

16-Sep-2025

**Revision Summary**

Not applicable.

**Training Advice**

Chemical incident response training.

**Legend****CAS**

Chemical Abstracts Service

**TSCA**

United States Toxic Substances Control Act Section 8(b)

Inventory

**EINECS/ELINCS**

European Inventory of Existing Commercial Chemical  
Substances/EU List of Notified Chemical Substances

**DSL/NDSL**

Canadian Domestic Substances List/Non-Domestic  
Substances List

**PICCS**

Philippines Inventory of Chemicals and Chemical Substances

**ENCS**

Japanese Existing and New Chemical Substances

**IECSC**

Chinese Inventory of Existing Chemical Substances

**AICS**

Australian Inventory of Chemical Substances

**KECL**

Korean Existing and Evaluated Chemical Substances

**NZIoC**

New Zealand Inventory of Chemicals

**WEL**

Workplace Exposure Limit

**TWA**

Time Weighted Average

**ACGIH**

American Conference of Governmental Industrial Hygienists

**IARC**

International Agency for Research on Cancer

**DNEL**

Derived No Effect Level

**PNEC**

Predicted No Effect Concentration

**RPE**

Respiratory Protective Equipment

**LD50**

Lethal Dose 50%

**LC50**

Lethal Concentration 50%

**EC50**

Effective Concentration 50%

**NOEC**

No Observed Effect Concentration

**POW**

Partition coefficient Octanol:Water

**PBT**

Persistent, Bioaccumulative, Toxic

**vPvB**

very Persistent, very Bioaccumulative

**ICAO/IATA**

International Civil Aviation Organization/International Air  
Transport Association

**IMO/IMDG**

International Maritime Organization/International Maritime  
Dangerous Goods Code

**ADR**

European Agreement Concerning the International Carriage of  
Dangerous Goods by Road

**MARPOL**

International Convention for the Prevention of Pollution from  
Ships

**OECD**

Organisation for Economic Co-operation and Development

**ATE**

Acute Toxicity Estimate

**BCF**

Bioconcentration factor

**VOC**

(Volatile Organic Compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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