

According to the UN GHS revision 8

Creation Date: April 27, 2026

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1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Acenaphthylene

Catalog Number: T7914

CAS Number: 208-96-8

1.2 Other means of identification

Other names: -

1.3 Recommended use of the chemical and restrictions on use

Identified uses: no data available

1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Address: 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity - Category 1, Dermal

Acute toxicity - Category 1, Inhalation

2.2 GHS label elements, including precautionary statements

Pictogram(s):



Signal word: Danger

Hazard statement(s):
H310 Fatal in contact with skin
H330 Fatal if inhaled

Precautionary statement(s):

Prevention:

P262 Do not get in eyes, on skin, or on clothing.
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P284 [In case of inadequate ventilation] wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P316 Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P320 Specific treatment is urgent (see ... on this label).

Storage: P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal: P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Acenaphthylene	-	208-96-8	205-917-1

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms/effects, acute and delayed

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Naphthalene and Related Compounds

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2 Specific hazards arising from the chemical

no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

ACCIDENTAL RELEASE MEASURES: Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Environmental precautions: Do not let product enter drains. 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

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

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 0.1 mg/cu m (cyclohexane-extractable fraction). /Coal tar pitch volatiles/

Biological limit values

NIOSH considers coal tar pitch volatiles to be potential occupational carcinogens. NIOSH usually recommends that occupational exposures to carcinogens be limited to the lowest feasible concentration. /Coal tar pitch volatiles/

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	Yellow
Odour	no data available
Melting point/freezing point	93°C(lit.)

Boiling point or initial boiling point and boiling range	275°C(lit.)
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	26°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	DMSO: 30 mg/mL (197.12 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
N-octanol-water partition coefficient	log Kow = 3.93
Vapour pressure	0.0022mmHg at 25°C
Density and/or relative density	0.899
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

NIOSH considers coal tar pitch volatiles to be potential occupational carcinogens. Coal tar pitch volatiles

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as ACENAPHTHYLENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible materials: Oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions - Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

CLASSIFICATION: D; not classifiable as to human carcinogenicity. BASIS FOR CLASSIFICATION: Based on no human data and inadequate data from animal bioassays. HUMAN CARCINOGENICITY DATA: None. ANIMAL CARCINOGENICITY DATA: Inadequate.

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: In water degradation studies using acclimated microbial populations occurring in ground water taken from an aquifer which is contaminated with coal tar products, acenaphthylene, at concentrations of 25-150 ug/L, was almost totally degraded at ambient temperature within 3 days(1). Acenaphthylene, present at 100 mg/L, reached 0% of its theoretical BOD in 4 weeks using an activated sludge in a Culum at 30 mg/L in the Japanese MITI test(2). Flask studies using groundwater from a creosote site and some surface soil found that an initial concentration of 0.6 ug/mL acenaphthylene was reduced to 0.2 ug/mL after 14 days of incubation while in sterile controls, reduction reached 0.4 ug/mL(3). Using a static-culture flask-screening procedure and a settled domestic wastewater in a Culum, acenaphthylene (at 5 and 10 mg/L) showed major degradation and adaptation with 91-100% biodegradability after 7 days and three subsequent 7-day subcultures(4).

12.3 Bioaccumulative potential

A BCF range of 225-545 was measured using carp (*Cyprinus carpio*) which were exposed over an 8-week period to 5 and 50 ug/L acenaphthylene(1). Using yearling carp (*Cyprinus carpio*) and OECD Guideline 305, average acenaphthylene BCF values of 271-279 were determined using average acenaphthylene concentrations of 4.34-4.55 mg/L(2). According to a classification scheme(3), these BCF values suggest the potential for bioconcentration in aquatic organisms is high (SRC), provided the compound is not metabolized by the organism (SRC). PAHs may not bioconcentrate in aquatic organisms which contain microsomal oxidase, such as fish, as this enzyme enables the rapid metabolism of certain polycyclic aromatic hydrocarbons(4). Some marine organisms have no detectable aryl hydrocarbon hydroxylase enzyme systems, namely: phytoplankton, certain zooplankton, mussels (*Mytilus edulis*), scallops (*Placopecten* sp), and snails (*Littorina littorea*)(5). Those organisms which lack a metabolic detoxification enzyme system, tend to accumulate polycyclic aromatic hydrocarbons(5).

12.4 Mobility in soil

Acenaphthylene has a reported experimental log K_{oc} value of 3.75 (K_{oc} of 5620) in soil(1). Desorption-sorption tests using 11 soils found a log K_{oc} range of 4.91-6.21 (K_{oc} of 8.1X10⁴ to 1.6X10⁶)(2). The log K_{oc} of acenaphthylene in 16 historically contaminated sediments ranged from 3.76 to 6.86 (K_{oc} of 5750 to 7.2X10⁶ with a median of 5.40 (K_{oc} of 2.5X10⁵)(3). According to a classification scheme(4), the K_{oc} range suggests that acenaphthylene is expected to be immobile in soil.

12.5 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. TRANSPORT INFORMATION

14.1 UN Number

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZI ^o C)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Not Listed.
Korea Existing Chemicals List (KECL)	Not Listed.

16. OTHER INFORMATION

Information on revision

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_l°Cale=en

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

no data available

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