



Fact Sheet

Sediment Quality Criteria for the Protection of Benthic Organisms: Acenaphthene

AUTHORITY

Sediment quality criteria are published pursuant to Section 304(a) of the Clean Water Act and may form the basis for enforceable standards if adopted by a State into water quality standards. The criteria present the U.S. EPA's best recommendation of the concentration of acenaphthene that may be present in sediment while still protecting benthic organisms from its effects. They are developed using an approach described in the "Technical Basis for Deriving Sediment Quality Criteria for Nonionic Organic Contaminants for the Protection of Benthic Organisms by using Equilibrium Partitioning" (EPA-822-R-93-011).

BACKGROUND

Acenaphthene (Dihydro-acenaphthylene or 1,8 ethylenenaphthalene) occurs in coal and is released during the high temperature carbonization or coking of coal. Acenaphthene is also used as a dye intermediate in the manufacture of plastics, insecticides and fungicides, and has been detected in cigarette smoke and gasoline condensates. It is a polycyclic aromatic hydrocarbon. (CAS No. 83-32-9)

CRITERIA VALUES

- * Freshwater benthic organisms should not be affected unacceptably if the concentration of acenaphthene in the sediment never exceeds 130 ug/g_{oc}.
- * Saltwater benthic organisms should not be affected unacceptably if the concentration of acenaphthene in the sediment never exceeds 230 ug/g_{oc}.

IMPLEMENTATION INTO STATE STANDARDS

Sediment quality criteria may form the basis for enforceable standards if adopted

by a State into water quality standards. States may opt to develop site specific criteria (Guidelines for Deriving Site-Specific Sediment Quality Criteria for the Protection of Benthic Organisms, EPA-822-R-017). Replacement of national criteria with site specific criteria may be necessary if (1) species at the site are more or less sensitive than those included in the national criteria data set or (2) the sediment or chemical quality characteristics at that site alter the bioavailability and consequently the toxicity of the sediment bound chemical predicted by Equilibrium Partitioning (EqP).

AVAILABILITY OF DOCUMENT

Copies of the criteria document, and other referenced documents, may be obtained from the address below.

*Sediment Quality Criteria for the
Protection of Benthic Organisms:
Acenaphthene (EPA-822-R-93-013)*

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