

Fact Sheet Date: June 1998

**NEW YORK STATE
- AQUATIC FACT SHEET -**

**Ambient Water Quality Value
For Protection of Aquatic Life**

SUBSTANCE: Pyrene

CAS,REGISTRY NUMBER: 129-00-0

TYPE:	BASIS:	Freshwater Ambient Water Quality Value, ug/L:
Chronic	Propagation	4.6
Acute	Survival	42

INTRODUCTION

These values apply to the water column and are derived to protect aquatic life from the effects of waterborne contaminants. Values for the protection of propagation of aquatic life are referred to as Aquatic (Chronic) or A(C) values. Values for the protection of survival of aquatic life are referred to as Aquatic (Acute) or A(A) values.

SUMMARY OF INFORMATION

The U.S. EPA AQUIRE (AQUatic toxicity Information Retrieval System)(U.S. EPA, 1993) was searched for toxicity data on pyrene with EC₅₀ or LC₅₀ toxicity endpoints. The initial search identified 13 toxicity test records. From that original group, only data with a documentation code of C (Complete methods and results documentation), and 96 hour LC₅₀ or 48 hour EC₅₀ endpoints were selected. If both flow-through and static test toxicity data were available for the same species, only flow-through data was used. Static toxicity test data was used only if flow-through data was not available. This second screening resulted in a final acute toxicity database for pyrene of one study with one freshwater species. No acceptable studies for marine species were found. Species Mean Acute Values (SMAVs) were determined from the acceptable pyrene toxicity studies obtained from the AQUIRE database. Ambient water quality guidance values were then calculated in accordance with 6NYCRR Part 706.1.

VALUE(S) ADDED 7-24-85

FACT SHEET REVISED _____

VALUE(S) REMOVED _____

Date: July 26, 1984

Surface Water Quality
Standard Documentation

Chemical: Polychlorinated Biphenyls, PCB

C.A.S. No.(s): NA

Basis (Human/Aquatic): Aquatic

Standard by Water Classification:

	<u>ug/l</u>	<u>Notes</u>
Classes AA,AA-s;A;A-s;B;C	0.001	H
Class D	0.001	H
Classes SA;SB;SC;I	0.001	H
Class SD	0.001	H

Remarks:

Summary of Information

- 40 CFR Part 129.105 (a) (4): "The ambient water criterion in navigable waters is 0.001 ug/l."
- EPA. 1976 Quality criteria for water. EPA 440/9-76-023, Wash., D.C. 256 pp.

-criteria: "0.001 ug/l for freshwater and marine aquatic life and for consumers thereof. Every reasonable effort should be made to minimize human exposure."

-derived from the FDA action level and effect levels in mink diet.
- IJC. 1977. New and revised Great Lakes water quality objectives, VOL. II. International Joint Commission, Regional Office, Windsor, Ont. 155 pp.

-PCB concentrations in water less than 0.001 ug/l should ensure fish flesh levels do not exceed 0.1 ug/gm which would protect fish-consuming birds and animals.
4. Veith et al. 1979. Polychlorinated biphenyls. Pages 239-246 In: A review of the EPA Red Book: Quality criteria for water. R.V. Thurston et al. (Eds.) Water Quality Section, American Fisheries Society, Bethesda. M.D.

-reviewers believe that environmental concentration factors of PCB used by EPA are low and that "a water concentration of no more than 0.0001 ug/liter (based on a 10^6 concentration factor) is required to prevent levels of 0.1 ug/g in fish."

5. EPA. 1980. Ambient water quality criteria for polychlorinated biphenyls. USEPA, Wahs. D.C.

-criteria to protect fresh and salt water life as derived using the national Guidelines are 0.014 and 0.030 ug/l, respectively, as a 24-hour average.

Standard Derivation

The criterion of 0.001 ug/l, derived to ensure that the FDA action level and wildlife diet effect levels are not exceeded, should be adopted as the standard for all classes of water for the sum of PCB. 40 CFR 129.105 requires the use of this criterion when setting water quality-based effluent limits.