

VALUE(S) ADDED 7-24-85
FACT SHEET REVISED _____
VALUE(S) REMOVED _____

Date: October 9, 1984

Surface Water Quality
Standard Documentation

Chemical: Quaternary ammonium compounds (including, but not limited to, dimethyl benzyl ammonium chloride and dimethyl ethyl benzyl ammonium chloride)

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	10	J
Class D		
Classes SA;SB;SC;I		
Class SD		

Remarks:

Summary of Information

- Willford, W., A., 1966. Toxicity of twenty-two therapeutic compounds to six fishes. Investigations in Fish Control No. 18, U.S. Dept. of the Interior, Fish and Wildlife Service, Wash. D.C., 10 pp.

-forty-eight hour LC₅₀ for dimethyl benzyl ammonium chloride (also known as Roccal) for a number of fish species are: rainbow trout, 2.57 mg/l; lake trout 1.95 mg/l; brook trout, 3.40 mg/l; bluegill, 1.68 mg/l; and channel catfish, 1.12 mg/l.
- McKim et al. 1976. Effects of pollution on freshwater fish. J. Wat. Poll. Cont. Fed. 38 (6): p. 1544-1620.

-report a 96 hr LC₅₀ for an unidentified quaternary ammonium compound (Busan 77) to harlequin fish of 0.07 mg/l.
- Spehar et al. 1981. Effects of pollution on freshwater fish. J. Poll. Cont. Fed. 53(6): 1028-1076.

-Report 96hr LC₅₀ for an unidentified cationic detergent to three species of fish: harlequin fish, 0.5 mg/l; brown trout 1.0 mg/l; and golden orfe, 1.6 mg/l.

4. Johnson, W.W, and M. T. Finley. 1980. Handbook of acute toxicity of chemicals to fish and aquatic invertebrates. US Dept. of the Interior. Fish and Wildlife Service, Resource Publication 137 Wash., D.C. 98 pp.

-report 96hr LC₅₀ for Roccal to two fish species: rainbow trout, 1.2 mg/l and bluegill, 0.3 mg/l.

Standard Derivation

The low LC₅₀ for harlequin fish suggests that bluegill may not be the most sensitive species to quaternary ammonium compounds. Therefore, a factor of 0.03 was applied to the bluegill LC₅₀ of 0.32 mg/l to calculate the standard for all freshwater classes except D of 10 ug/l.