

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

Date: October 10, 1984

Surface Water Quality
Standard Documentation

Chemical: Nitrite

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

Basis (Human/Aquatic): Aquatic

Standard by Water Classification:

	<u>ug/l</u>	<u>Notes</u>
Classes AA,AA-s;A;A-s;B;C	100* or 20**	J
Class D		
Classes SA;SB;SC;I		
Class SD		

Remarks: *-warmwater fishery waters
**-coldwater fishery waters

Summary of Information

1. Russo, R.C., C.E. Smith and R.V. Thurston. 1974. Acute toxicity of nitrite to rainbow trout (Salmo gairdneri). J. Fish. Res. Bd. Canada, 31(10): 1653-1655.
-96hr LC₅₀ for rainbow trout ranged from 0.19-0.39 mg/l.
2. Smith, C.E. and W.G. Williams. 1974. Experimental nitrite toxicity in rainbow trout and chinook salmon. Trans. Am. Fish. Soc. 103(2):389-390.
-24hr LC₅₀ for rainbow trout and chinook salmon were 0.55 and 0.5 mg/l, respectively.
3. Wallen et al. 1957. Toxicity to Gambusia affinis of certain pure chemicals in turbid waters. Sewage Ind. Wastes 29: 695.
-noted a 24hr LC₅₀ of 1.6 mg/l and 96hr LC₅₀ of 1.5 mg/l nitrite nitrogen for the mosquito fish.
4. McCoy, E.F. 1972. Role of bacteria and the nitrogen cycles in lakes. U.S. Environmental Protection Agency, Water Poll. Control Series, No. EP 2-10:16010-EHR-03/72. U.S. Government Printing Office, Wash, D.C.
-demonstrated nitrite sensitivity of 13 fish species and found logperch were the most sensitive species tested (mortality at 5 mg/l nitrite nitrogen in less than 3 hrs. of exposure) while carp and black bullheads were least sensitive and surviving 48hr exposure to 40 mg/l nitrite nitrogen.

Standard Derivation

Applying a factor of 0.05 to the value of 0.4 mg/l (a concentration within the range of acute values for rainbow trout and chinook salmon) results in a value of 20 ug/l which is the recommended standard for coldwater fisheries water in all freshwater classes except class D. Applying a factor of 0.05 to the value of 2 mg/l (a concentration within the range of acute values reported by Walen et al. (1957) and McCoy (1972) results in a value of 100 ug/l which should be adopted as a standard for warmwater fishery waters in all freshwater classes except D.