

AMBIENT SURFACE WATER QUALITY  
STANDARDS DOCUMENTATION

CHEMICAL: Ethylene glycol

VALUE(S) ADDED

8-08-83

CAS NO.(s): 107-21-1

FACT SHEET REVISED 9-6-85

BASIS (Human/Aquatic): Human

VALUE(S) REMOVED \_\_\_\_\_

WATER CLASSIFICATION: AA; AA-s; A; A-s

STANDARD: 50 ug/l

Note E

REMARKS:

SUMMARY INFORMATION:

Available toxicity information on ethylene glycol has been reviewed.<sup>1,2,3</sup> The toxic effects associated with acute exposure to relatively large amounts of ethylene glycol are renal damage and acidosis. An intoxication similar to ingestion of ethanol occurs but without the odor of alcohol on the breath. Chronic exposure has been much less studied. Primary concerns involve possible chronic adverse effects on the kidneys, liver, and/or central nervous system. In this regard, long term feeding studies<sup>4,5</sup> with rats have failed to demonstrate a no-effect level for ethylene glycol ingestion after administration of 0.1% to 4% in the diet. A significant reduction in litter size was observed after pregnant mice were given ethylene glycol orally for 18 days at 0.1 to 0.4 of the parenteral LD50; quantitative data on dose levels was not provided.<sup>6</sup> Insufficient data exist upon which to calculate a guideline based on chronic toxicity or aesthetic effects. A carcinogenesis bioassay sponsored by the National Toxicology Program is in progress and the standard may be modified once the results are available for review.

STANDARD DERIVATION

Inadequate data base for this chemical precludes the use of any derivation outlined in Section 701.3 through 701.7. Therefore, the general guideline of 50 ug/l is recommended as the standard.

REFERENCES:

- (1) Environmental Health Perspectives, 1984, Vol. 57, 1-281.
- (2) Parry, et al., 1974, Am. J. Med., 57, 143-150.
- (3) Marshall, et al., 1981, Tox. Appl. Pharm., 58, 31-38.
- (4) Blood, F.R., 1965, Fd. Cosmet. Toxicol. 3, 229-234.
- (5) Morris et al., 1942, J. Pharmac. Ther. 74, 266-273.
- (6) Ellis and Raskova, 1964, Excerpta Med. Int. Congr. Ser. 3, 41-50.

JS/pb

DEC 84 -- 9 SEP 6 1985