VALUE(S) ADDED

FACT SHEET REVISED 1-6-85

VALUE(S) REMOVED

AMBIENT SURFACE WATER QUALITY STANDARDS DOCUMENTATION

CHEMICAL: Ethylene chlorohydrin

CAS NO.(s): 107-07-3

BASIS (Human/Aquatic): Human

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

STANDARD: 50 ug/l Note E

REMARKS:

SUMMARY INFORMATION:

Available toxicity information on this compound has been reviewed.[1,2] Insufficient data exist upon which to calculate a guideline based on chronic toxicity or aesthetic characteristics. Although ethylene chlorohydrin has shown genotoxic activity in several short-term tests,[1-3] preliminary results of a carcinogenesis bioassay in which rats were given ethylene chlorohydrin via gavage indicate that, under the conditions of the bioassay, ethylene chlorohydrin was not oncogenic.[4] The results of another recently completed, but-as-yet unreleased bioassay, sponsored by the National Toxicology Program indicate that, under the conditions of the bioassay (skin painting), ethylene chlorohydrin was not oncogenic in either rats or mice.[5] The compound has not been adequately tested to determine its oncogenic potential via ingestion.

STANDARD DERIVATION:

An 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) U.S. Food and Drug Administration. 1978. Ethylene oxide, ethylene chlorohydrin, and ethylene glycol. Fed. Register. 43: 27474-27483.

(2) U.S. Environmental Protection Agency. 1978. Ethylene oxide. Position Document 1. Fed. Register. 43: 3802-3812.

REFERENCES continued:

(3) McCann, J. et al. 1975. Mutagenicity of chloroacetaldehyde, a possible metabolic product of 1,2-dichloroethane (ethylene dichloride), chloroethanol (ethylene chlorohydrin), vinyl chloride and cyclophosphamide. Proc. Nat. Acad. Sci. USA. 72: 3140-3143.

(4) Dunkelberg, H. 1983. Carcinogenic activity of ethylene oxide and its reaction products 2-chloroethanol, 2-bromoethanol, ethylene glycol and diethylene glycol. II. Testing of 2-chloroethanol and 2-bromoethanol for carcinogenicity. Chem. Abstracts. 99: 48754v.

(5) Pesticide and Toxic Chemical News. 1984. August 1, 1984.

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