

AMBIENT SURFACE WATER QUALITY  
STANDARDS DOCUMENTATION

CHEMICAL: Methacrylic acid

CAS NO.(s): 79-41-4

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 methacrylic acid has been reviewed.<sup>1,2,3,4</sup> Methacrylic resins and plastics are widely used in dentistry, in the manufacture of contact lenses, and in other industrial applications. Skeletal abnormalities were reported in offspring of rats exposed by intraperitoneal injection to methyl acrylate.<sup>2</sup> Insufficient data exist upon which to calculate a guideline based on chronic toxicity or aesthetic characteristics. The compound has not been adequately tested to determine its oncogenic potential.

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) Tani, H. and Hashimoto, K., 1982, Structure-toxicity relationship of acrylates and methacrylates, *Tox. Letters*, 11, 125-129.
- (2) Singh, A., et al., 1972, Embryonic-fetal toxicity and teratogenic effects of a group of methacrylate esters in rats, *J. Dent. Res.*, 51(6), 1632-1638.
- (3) Delbressine, L., et al., 1981, Identification of urinary mercapturic acids formed from acrylate, methacrylate and crotonate in the rat, *Xenobiotica*, 11(4), 241-247.
- (4) International Agency for Research on Cancer, 1979, Monograph on the Carcinogenic Risk of Chemicals to Humans, Vol. 19, p. 52-57.

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