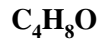


Tetrahydrofuran



[CAS No. 109-99-9]

OEL-B: Urinary tetrahydrofuran, 2 mg/l

Sampling time: End of shift

Summary of OEL-B documentation

Because the biological half-life of tetrahydrofuran (THF) is 118 min, the results from experimental studies and occupational health studies may be considered together. In experimental volunteer exposure studies, a study by Teramoto *et al.*¹⁾ suggested that 0.19 mg/l corresponds to occupational THF exposure at 50 ppm. A study by Failing *et al.*²⁾ with a physical load indicated 2.19 mg/l. In occupational exposure studies, a study by Ong *et al.*³⁾ indicated a value of 2.22 mg/l, and that by Lehnert⁴⁾ indicated 1.13 mg/l. The lower value by Teramoto *et al.*¹⁾ may be attributable to the absence of physical load during the exposure. The arithmetic mean of other three values, i.e., 2.19 mg/l (by Failing *et al.*²⁾, 2.22 mg/l (by Ong *et al.*³⁾) and 1.13 mg/l (by Lehnert⁴⁾), is 1.85 mg/l. Based on

the mean value, 2 mg/l is proposed as the biological exposure limit that corresponds to THF exposure at 50 ppm.

Year of Proposal (no revision was made regarding OEL-B value): 2014

Year of Proposal: 2007

References

- 1) Teramoto K, Wakitani F, Kageyama M, Horiguchi S. Elimination of tetrahydrofuran in man. Proceedings of the Second Asia-Pacific Symposium on Environmental and Occupational Health 22–24 July, 1993, Kobe. Kobe University and National University of Singapore. 1994; pp. 177–83.
- 2) Failing A, Knecht U, Weitowitz HJ. DFG biological exposure values for occupational toxicants and carcinogens, vol. 2. VCH, Weinheim 1995; p. 105.
- 3) Ong CN, Chia SE, Phoon WH, Tan TK. Biological monitoring of occupational exposure to tetrahydrofuran. *Brit J Ind Med* 1991; 48: 616–21.
- 4) Lehnert HCG, 2001. Cited from ACGIH BEI document for tetrahydrofuran, 2001.