

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

June 29, 1995

TO: File for Ethyltriethoxysilane (78-07-9)
FROM: Marco Bianchi
SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for ethyltriethoxysilane is 44 ug/m³ based on an annual averaging time.

The following references or databases were searched to identify data to determine the ITSL: IRIS, HEAST, NTP Management Status Report, RTECS, EPB-CCD, EPB library, CAS-online, NLM-online, IARC, NIOSH Pocket Guide, and ACGIH Guide.

A complete reference check was conducted for ethyltriethoxysilane, but only limited information was available. In a study conducted by Smyth et al., groups of 5 male or female Carworth-Wistar rats were given a single oral dose in a logarithmic series by gastric intubation. The animals were observed for 14 days, and the LD₅₀ value was estimated by the method of Thompson. The LD₅₀ was determined to be 13.72 g/kg for ethyltriethoxysilane.

The ITSL was derived as follows:

LD₅₀ = 13,720 mg/kg

$$\text{ITSL} = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{13,720}{0.167 \times 0.931} = 0.044 \text{ mg/kg}$$

0.044 mg/kg x 1000 = 44 ug/m³ based on annual averaging.

The ITSL for ethyltriethoxysilane = 44 ug/m³ based on annual averaging.

References:

Smyth, HF. et. al., 1949. Range-Finding Toxicity Data List III. Journal of Industrial Hygiene and Toxicology. 31:60-62.

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