

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES**

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**INTEROFFICE COMMUNICATION**

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August 19, 1993

TO: File for Butoxyl (CAS #4435-53-4)  
FROM: Dennis Bush, Surface Water Quality Division  
SUBJECT: ITSL Derivation

No RfC, RfD or OELs are available for butoxyl (3-methoxy butyl ester acetic acid). A CAS search conducted on June 26, 1993 which covered the period since 1967 revealed no useful toxicity studies. However, RTECS listed an oral rat LD50 of 4210 mg/kg which was found in a study conducted by Smyth et al. (1954). In this study, groups of unfasted male Carworth-Wistar rats (5 rats/group) were dosed by gavage and then monitored for 14 days. The LD50 was estimated using the method of Thompson. The ITSL was based on this LD50 since no other appropriate toxicity studies were available.

ITSL Derivation:

$$\begin{aligned} \text{ITSL} &= 1/500 \times 1/40 \times 1/100 \times \text{LD50}(\text{mg/kg}) \times \text{Wa}) / (0.167 \times \text{Ia}) \\ \text{ITSL} &= 1/500 \times 1/40 \times 1/100 \times (4210\text{mg/kg} \times 0.5\text{kg}^*) / (0.167 \times 0.45\text{m}^3/\text{d}^*) \\ \text{ITSL} &= 0.014 \mu\text{g}/\text{m}^3/\text{d} \text{ annual averaging time} \end{aligned}$$

\* Inhalation rate and body weight for male Wistar rats derived from data provided in EPA (1988).

**REFERENCES**

Smyth, H.P. Jr., C.P. Carpenter, C.S. Weil and U.C. Pozzani. 1954. Range-finding toxicity data: List V. AMA Arch. md. Hyg. Occ. Med. 10:61-68.

U.S. EPA. 1988. Recommendations for and Documentation of Biological Values for use in Risk Assessment. PB 88-179874.

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