MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

January 25, 1993

TO: FILE for 2-Ethylhexyl acetate (Cas No. 103-09-3)

FROM: Cathy Simon

SUBJECT: ITSL for 2-Ethylhexyl Acetate

The ITSL for 2-ethylhexyl acetate is 15 $\mu g/m^3$, based on an annual averaging time. This value has been revised from that determined on December 21, 1992, based on new data obtained from Union Carbide and Eastman Kodak. The original ITSL of 8 $\mu g/m^3$ was based on an "extremely rough approximation" of the LD50 (3.0 g/kg) in rats dosed orally by gavage (Smyth & Carpenter, 1944). Data provided by Union Carbide showed an oral rat LD50 of 5.89 g/kg (5.38 - 6.44 g/kg). Although specific test protocol were not provided, Dr. Timothy Cawley of Union Carbide indicated that the same methodology was used as in later range finding tests done by Smyth to establish LD50s. Data supplied from Kodak indicated the oral rat and mouse LD50s are greater than 3200 mg/kg, as no deaths occurred in animals receiving this dose level. The oral rat LD50 of 5.89 g/kg supplied by Union Carbide appears to be a better value than the extremely rough approximation LD50 of 3.0 g/kg reported by Smyth and Carpenter (1944). Therefore, this value was used to determine the ITSL as follows:

$$ITSL = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{(5890\ mg/kg) \times (0.105\ kg)}{(0.167) \times (.126\ m^3/day)} = 15\ \mu g/m^3$$

Since specific body weights and inhalation rates for the test animals were not available, the same values as used to determine the original ITSL of 8 $\mu g/m^3$, were also used in the above equation.

References

Smyth, Henry F. and Charles Carpenter. 1944. The place of the range finding test in the industrial toxicology laboratory. J. Ind. Hyg. Toxicol. 26:269-273.

CAS:ma