**MICHIGAN DEPARTMENT OF NATURAL RESOURCES**{PRIVATE }

INTEROFFICE COMMUNICATION

December 17, 1992

TO: File for n-butyl methacrylate (CAS# 97-88-1)

FROM: Mary Lee Hultin, Toxics Unit

SUBJECT: Screening level for n-butyl methacrylate

The following databases were searched for toxicity information about n-butyl methacrylate:

RTECS
DNR EPB database
EPA IRIS
ACGIH TLV and NIOSH REL reference lists
EPA HEAST
NTP annual report
AQD chemical files
DNR Nutshell library
CAS Online

Evidence of developmental toxicity was noted in a study by Singh, et al. (1972). Increased fetal resorptions, decreased fetal weights and increased malformations were noted. However, the dosing regime was via i.p., making route extrapolation difficult. Because an inhalation LC50 was available (Oberly and Tansy, 1985), this data was used for screening level derivation as the route of exposure is more appropriate. With the additional safety factors involved in using an LC50 for derivation of an ITSL, it should provide protection against reproductive effects.

LC50 = 4910 ppm
1 ppm = 5.8 mg/m3 (Fassett, 1967)
4910 ppm x 5.8 = 28478 mg/m3

ITSL = LC50/(500X100)
28478 mg/m3/(500x100) = 0.569 mg/m3
or 569 ug/m3 based on annual averaging

REFERENCES:

1. Oberly, R. and M. Tansy, 1985, "LC50 Values for Rats Acutely Exposed to Vapors of Acrylic and Methacrylic Acid Esters", Journal of Toxicology and Environmental Health, v.16, p.811-822.

2. Singh, A.R., et al., 1972, "Embryonic-Fetal Toxicity and Teratogenic Effects of a Group of Methacrylate Esters in Rats", Journal of Dental Research v.51(6), p.1632-1638.

3. Fassett, D.W., "Esters", from Industrial Hygiene and Toxicology, V. II., 1967, p. 1880, F.A. Patty, Ed.