

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

December 6, 1994

TO: 2-Bromoethyl benzene file (CAS # 103-63-9)
FROM: Gary Butterfield
SUBJECT: ITSL for 2-Bromoethyl benzene

2-Bromoethyl benzene is also known as phenethyl bromide. There is no EPA RfC or RfD for 2-bromoethyl benzene. There were no occupational exposure limits found to be established by ACGIH, OSHA or NIOSH. An October 28, 1994 on-line search of CAS and NLM was conducted. The on-line searches found only one study that could be used to establish a screening level. The NLM search found an unpublished acute oral toxicity study in rats conducted for a ToSCA submission by the WIL Research Lab (1991). In this study, groups of 5 male and 5 female, young adult, weighing 210 to 282g, Crl:CD-BR rats were administered pure compound at doses of 521, 750 or 1080 mg/kg. There was a 14 day observation period following administration. The LD50 was calculated by the methods described by Litchfield and Wilcoxon to be 811 mg/kg with 95% confidence intervals of 678 - 969.

The ITSL can be calculated from the LD50 by the equation in Rule 232(1)(h) as follows.

$$\frac{811 \text{ mg/kg}}{500 \times 40 \times 100 \times 0.167 \times 0.9 \text{ m}^3/\text{kg}} = 2.7 \text{ ug/m}^3 \text{ rounded to } 3 \text{ ug/m}^3$$

where 0.9 m³/kg is the default inhalation rate for rats.

The ITSL is being established as 3 ug/m³ with an annual average for 2-bromoethyl benzene.

References:

WIL Research Laboratories. 1991. Initial submission: Acute oral toxicity (LD50) study in albino rats with 2-bromoethyl benzene (final report) with cover letters dated 012792 & 022192 (sanitized). EPA/OTS doc # 88-920003861S.