

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

March 12, 1993

TO: File for Di-n-propylamine (CAS# 142-84-7)
FROM: Mary Lee Hultin, Toxics Unit
SUBJECT: Toxicity data on di-n-propylamine (CAS# 142-84-7)

The following sources were searched for toxicity data:

RTECS
EPA IRIS
DNR EPB and NUTSHELL
NIOSH
ACGIH TLV
CAS Online
NLM Toxline database

No chronic, carcinogenicity or reproductive effects/teratogenicity studies were available for this compound. An LD50 study by Dow Chemical was used for screening level derivation. Female Sprague-Dawley rats were administered five dose levels via gavage. Doses of 0.125, 0.25, 0.50, 1.00 or 2.00 gm/kg body weight were given to groups of four rats. Animals were observed for two weeks following dosing. The LD50 as calculated according to the method of Weil (1952) was 0.5 gm/kg body weight with a 95% confidence interval of 0.335-0.746 gm/kg. Data on this study was obtained on microfiche from NTIS.

Other acute studies reviewed include the following:

1. Gagnaire, F., et al., 1989 published an RD50 (i.e., the airborne concentration resulting in a 50% decrease in respiratory rate) in mice. Although the original study (J. Appl. Toxicol., v.9(5)) was not available for review, the findings were summarized (Critical Reviews in Toxicology, v.21(3), p.183) and the RD50 for di-n-propylamine was listed as 92 ppm for a 15 minute exposure.

2. Kodak provided toxicity data in a TSCA submittal to EPA. One inhalation report included a 15 minute exposure of concentrated vapor to 6 rats, all 6 died. The same concentration did not kill any rats in 5 minutes. Another report provided a notation that 1000 ppm killed 2/6 rats in a 4 hour exposure. The reference provided was the Amer. Ind. Hyg. Assoc. J., v. 10, p. 95-107, 1962. However, this volume number does not match the correct year of publication and the reference could not be located. Kodak listed the rat oral LD50 range of 200-400 mg/kg in this

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report, but details of the study were not provided. Kodak classified this compound as a severe eye and skin irritant.

3. RTECS provided an inhalation rat 4 hour LC50 of 4400 mg/m³ and an oral rat LD50 of 460 mg/kg from a Russian study in which no details were reported. On a Material Safety Data Sheet, Hoescht-Celanase reported an oral rat LD50 of 930 mg/kg with no details provided. This company also determined that di-n-propylamine was corrosive to the eyes of rabbits.

The ITSL for this chemical was derived as follows:

Dow LD50 = .5 gm/kg or 500 mg/kg

$$\text{ITSL} = (1/500 \times 1/40 \times 1/100) \times (500 \text{ mg/kg}) / (0.167 \times 0.971 \text{ m}^3/\text{kg}/\text{d}) =$$
$$1.5\text{E}-3 \text{ mg}/\text{m}^3$$

or 1.5 ug/m³ based on annual averaging