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E. I. du Pont de Nemours and Company
Haskell Laboratory for Toxicology and Industrial Medicine
Elkton Road, Newark, Delaware 19711

HASKELL LABORATORY REPORT NO. 494-80 [REDACTED]

Material Tested

Haskell No.
13,383

Other Codes/Synonyms
[REDACTED]

Study Initiated/Completed
4/21/80 - 4/29/80

Material Submitted by
[REDACTED]
CD&P Dept.
Jackson Lab

INHALATION MEDIAN LETHAL CONCENTRATION (LC50)

Introduction: The purpose of this study was to determine the LC50 for [REDACTED]

Procedure: Groups of 10 ChR-CD® rats, 8 weeks old and weighing 235-282 g, were exposed to vapor atmospheres of the test material for single 4-hr. periods. Except during exposure, rats were housed in suspended stainless-steel wire mesh cages. Purina Certified Rodent Chow® #5002 and water were supplied ad libitum. During exposure, all rats were observed and clinical signs noted. Following exposure, rats were weighed and observed daily (excluding weekends) for a 14-day recovery period.

Generation: Vapor atmospheres of the test material were generated by syringe driving the compound through a Spraying Systems nebulizer. The syringe and nebulizer were heated to a temperature of approximately 50°C. The aerosol was then sprayed onto the heated surface of a 3-neck round-bottom flask. Houseline air swept the vapors into a 20 l glass battery jar.

Dry ice was placed on top of chamber to keep temperature $\leq 28^{\circ}\text{C}$. Oxygen and chamber temperature were monitored throughout each exposure.

Analytical: Chamber samples were collected approximately every 30 minutes by drawing a known volume of chamber atmosphere through 2 tandem midget impingers containing [REDACTED] as a trapping solvent. These samples were analyzed using a Hewlett Packard Model 5710 gas chromatograph equipped with a flame ionization detector. The column used was a 6' x 1/4" OD glass coil packed with a 20% SE30 on

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80/100 mesh chromosorb W-HP. The GC was temperature programmed with an initial hold at 50°C for 2 minutes, increased at 32 °C/min to 200°C, and held there for 2 minutes.

GC analysis was based on the C-8 component. Chamber concentrations are expressed as the equivalent [redacted] concentration (mg/l).

Results: Six exposures were conducted. Occasionally, during exposures, low boiling components caused flash evaporation and high boiling solids caused plugging of the needle. These problems account for the high standard deviation for the exposure concentrations.

Concentration mg/l	S. D.	Fractional Mortality # deaths/ # exposed	
51.2	13.4	0	10
66.7	41.6	1	10
70.9	22.7	0	10
76.9	29.8	7	10
110	14.0	4	10
123	30.0	6	10

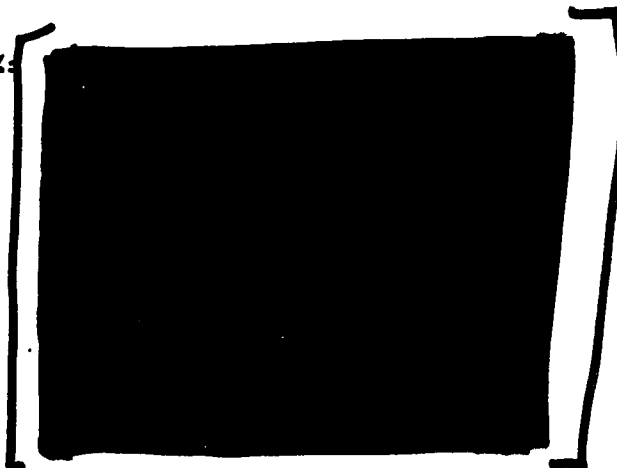
Observations: Labored breathing, reduced response to sound, and salivation were observed during all exposures except one. Mild to severe weight loss 24 hours post-exposure followed by normal weight gain was observed in levels $\leq$ 70.9 mg/l. Gasping, severe weight loss 48 hours post-exposure followed by normal weight gain was observed at 76.9 mg/l. In levels $\geq$ 110.0 mg/l, severe weight loss 48-72 hours post-exposure followed by normal weight gain was observed.

All deaths occurred 24-48 hours post-exposure.

Summary: Groups of 8 week-old Chr-CD® male rats were exposed to vapors of [redacted] for single 4-hr. periods. The LC50** was estimated to be 107 mg/l. Ninety-five percent confidence intervals could not be calculated due to inconsistency of dose-response.

Clinical signs observed during exposure included labored breathing, salivation, and reduced response to sound. Mild to severe weight loss was observed 24-72 hours post-exposure but normal weight gain was achieved thereafter.

* Typical Composition %



** D. J. Finney, Probit Analysis, 3rd Ed., 1971, Cambridge University Press.

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