

January 15, 1925.

DA 794.3

The Toxic Effect of Different
Substances on Rabbits.Dr. C. O. Johns,
Building.

Dear Sir:

A study has been made of the toxic effect of the following substances on rabbits.

- 1) Crude tetraethyl lead
- 2) White compound formed during process of distillation (#1)
- 3) White compound covering residual lead in lead pit (#2)
- 4) Residual lead from lead pit.
- 5) The first water wash of reaction mixture before steaming (#4)
- 6) The condensate water (#5)
- 7) The water wash of reaction mixture after steaming (#6)

Rabbits

A dozen rabbits were purchased from a rabbit breeder. They were weighed and fed daily in an outside comfortable pen for a period of 25 days, during which period the rabbits gained from 4 to 7 ounces - 3 rabbits maintained their original weight and one rabbit died. The eight rabbits that had gained weight and appeared in good condition were used for the tests.

Procedure

An area of 4 sq. in. was bared on the body of each of the rabbits.

- 1) Rabbit kept as a control and given no treatment.
- 2) 1/4 cc of Lead tetraethyl painted on body of a rabbit.
- 3) Poultice of 20 grams of white compound #1 applied to body of a rabbit and adhered to body by adhesive tape.
- 4) Poultice of 20 grams of white compound #2 applied to body of a rabbit and adhered to body by adhesive tape.
- 5) Poultice of 20 grams of spent lead applied to body of a rabbit and adhered to body by adhesive tape.
- 6) 10 c.c. of liquid #4 allowed to soak in body of a rabbit.
- 7) 10 c.c. of liquid #5 " " " " " " "
- 8) 10 c.c. of liquid #6 " " " " " " "

The rabbits were fed daily with dabbage, carrots, and oats.

The poultices were changed every other day and the liquids were applied daily.

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Results

After 36 hours from the time of the first applications, the rabbit upon which was painted the crude tetraethyl lead died. The rabbits that received poultice treatments (3), (4), (5) did not eat on the day following the first application but ate on all subsequent days.

Tests continued until Jan. 9, 1925, at which time all the rabbits maintained their weight and appeared well. All the rabbits were nervous.

CONCLUSION

The toxicity of Lead tetraethyl has been shown to be greater than any of the substances occurring in the process of its manufacture.

Yours very truly,

R. Rosen.

RR/AC
nar

(EMK)

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