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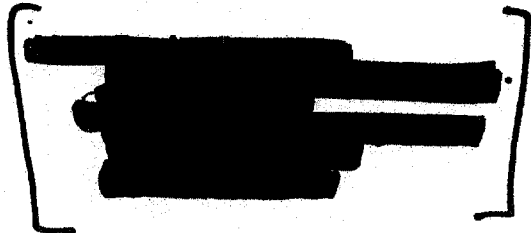
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WASHINGTON WORKS
TEFLON® DIVISION

① Bob Taylor *thought?*



September 28, 1982

TO: R. J. ZIPFEL

FROM: J. G. LOSCHIAVO *J.G.L.*

AMMONIUM PERFLUOROOCTANOATE (C-8) IN BLOOD OF TEFLON® EMPLOYEES

References: (1) Letter, T. P. Pastoor to J. G. Loschiavo,
8/25/82, this subject, attached.
(2) Letter, J. G. Loschiavo to R. J. Zipfel,
7/29/82, this subject, attached.

The purpose of this letter is to summarize and comment on the two reference letters. I initially estimated that 40% of inhaled C-8 vapor is retained in the blood. The remaining 60% of inhaled vapor has four fates:

- It is immediately exhaled.
- It is inhaled but not absorbed into the body.
- It is eliminated by the kidneys, intestines, and sweat glands.
- It is retained in other body tissues besides blood.

I asked T. P. Pastoor, a Haskell Laboratory Toxicologist, to review my calculations. He used a somewhat different approach but came up with similar results. He estimated the fraction of inhaled C-8 vapor that is retained in the entire body. I, on the other hand, estimated the fraction of inhaled C-8 retained only in the blood.

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It has been estimated from data collected on female employees transferred out of TEFLON®, that it takes about 420 days for the body to eliminate half of accumulated C-8 ($t_{1/2} = 420$ days). Using the formula listed on page two of Pastoor's letter, it is estimated that 47% of inhaled C-8 is retained in the entire body. Since I estimated C-8 retention in blood, which contains a fraction of total body water, it is not surprising that Pastoor's estimation is somewhat higher. Most importantly, both approaches indicate that much less than 100% of inhaled C-8 vapor is retained in the blood. Pastoor estimated that only about one-half of inhaled C-8 vapor is retained in the entire body. This is indeed encouraging. These estimations are rough since they are based on data from only four employees. Pastoor recommends that more human blood C-8 data be collected in order for more accurate estimations to be made. A greater effort is now being made to gather such data.

Attachments

JGL/nsw
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