Wiping was performed by one person in a "standardized" way, i.e., the same area of the back was wiped with the same number and type of strokes. One person held the rat, another (wearing gloves previously soaked in hexane) wiped, while a third removed feces and urine from the table excreted during wiping.

The cotton pledgets were extracted with redistilled hexane, filtered, the solvent removed, the lipids weighed, (average yield per rat per wiping was 12 mg), and an aliquot assayed for radioactivity on a Nuclear Chicago scintillation counter by means of the channels ratio technique. Hydrocarbons (17.3 mg) were separated from the remaining lipid after application of 241 mg total lipid on a chromatographic column (2.5 × 10 cm) of silicic acid (Mallinckrodt) by elution with 70 ml of petroleum ether and counted.

The figure shows the rate of rise and fall of specific activity of rat skin surface lipid from the time of feeding of 1-C^{14} octadecane (zero days). The bars of the curve represent the range, the dots, average values. Since the initial appearance of activity was approximately 2 days after ingestion of 1-C^{14} octadecane and maximum activity appeared at about 6 days, it can be inferred that this activity arose from sebaceous gland excretion and not from keratinizing epithelia, for the cell renewal time of the malpighian layer of the back skin of adult rats is 15.9 days (5).

The radioactivity of the surface lipid, however, did not reside in the hydrocarbon fractions. It thus appeared unlikely that excretion of straight chain hydrocarbons when ingested at a low level can be a source of the hydrocarbons found in skin surface lipid. Whether other hydrocarbons of the petroleum type behave similarly remains to be determined.

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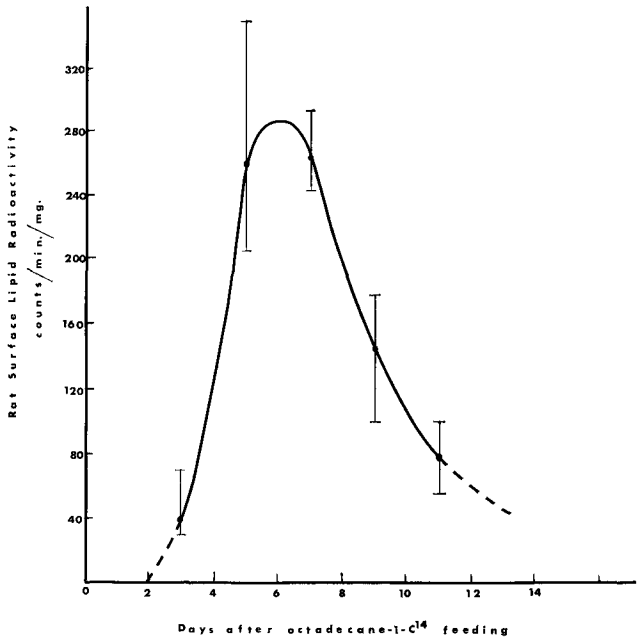

FIG. 1

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Effect of Storage Temperature on the Stability of Trivernolin

PREVIOUSLY WE REPORTED that under certain conditions of storage *Vernonia* oil and trivernolin undergo changes in their physical nature that are not always indicated by oxirane oxygen values (1). Of particular concern was the increase in viscosity that occurred during storage of trivernolin in a semisolid to solid state at 2–4C. This instability at 2–4C was further corroborated when trivernolin was stored and exposed to the surrounding atmosphere at −29C, −16C, 2C, and 15C for 6 months. The viscosity of the trivernolin stored at 2C increased 30%; no measurable changes were found in the other samples.

Since this behavior seemed unnatural, another study was made. The trivernolin used in this experiment had been refined by treatment with adsorbents and was a higher grade product than that previously used. Two samples were stored and exposed to the surrounding atmosphere; one at room temperature (25–27C)

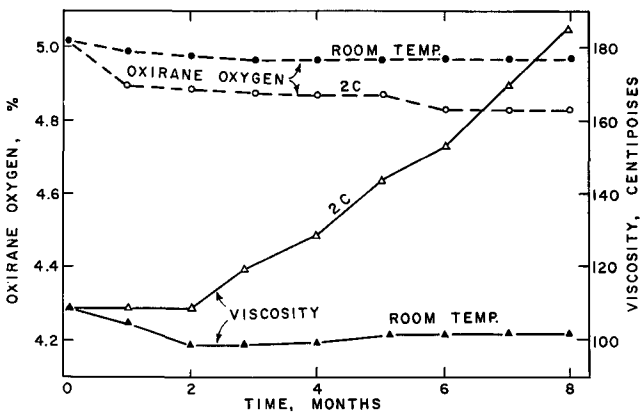

FIG. 1. Effect of storage on the viscosity and oxirane oxygen content of trivernolin.

and one at 2C. Oxirane oxygen content, iodine values and viscosities were determined on these samples each month for 8 months. The iodine values did not change appreciably during 8 months' storage. The viscosity measurements and oxirane oxygen values are shown in Figure 1. All viscosity measurements were made at 30C ± 0.1C. Although the results at 2C confirm our previous studies, we have not yet determined the cause of this unique behavior.

The viscosities of the sample stored at room temperature do not agree with our previously reported results (1) for samples exposed to light at room temperature. The refining process probably removed some impurity that caused the samples in the previous studies to be unstable to light.

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• *Addendum*

JAOCS *42*, 978–982 (1965), A. Kuksis and W. C. Breckenridge: "Gas Chromatographic Resolution of Butteroil and Synthetic Triglycerides Beyond Their Carbon Numbers."

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