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Heavy Water Obtained by the Combustion of Dried Biological Specimens

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Heavy Water Obtained by the Combustion of Dried Biological Specimens

Authors

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HEAVY WATER OBTAINED BY THE COMBUSTION OF
DRIED BIOLOGICAL SPECIMENSH. L. KEIL, A. W. RALSTON, M. T. KELLEY, W. E. CATLIN,
W. H. JENNINGS, J. STRALEY AND H. GILMAN

Dry, finely divided plant and animal tissues were oxidized by passage over hot copper oxide; the aqueous condensates were first distilled from potassium permanganate and then alone. If necessary, oxidation and distillation were repeated until there was no significant change in density. Densities were determined by a modification of the submerged magnetic float procedure, and the accuracy was one part per million. The specimens examined were practically all of the chief organs of cattle; yeasts; dairy products; and some parts of plants like corn and melons. The study is being extended to other biological specimens, normal and pathological.

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ADDITION OF CHLOROAMINES TO KETENES

GEORGE H. COLEMAN AND ROLF L. PETERSON

Considerable work has been done in this laboratory on the reactions of chlorine derivatives of nitrogen compounds, particularly nitrogen trichloride, monochloroamine, monobromoamine, dibromoamine, and the alkylchloroamines.

Nitrogen trichloride adds to unsaturated hydrocarbons, unsaturated ketones, and unsaturated acids, to form C-chloro-N-dichloroamino derivatives. The products formed in these addition reactions of nitrogen trichloride indicate that the -Cl is apparently more electropositive than the -NCl₂ group.

Monochloroamine and substituted chloroamines do not add to unsaturated hydrocarbons, ketones, or acids. This method of determining what might be called the relative electro-negativity or perhaps the electron sharing ability of the atoms or radicals involved is therefore not available.

Since the ketenes are very reactive compounds and react with given reagents as illustrated in the following equations