

MEDICINE

Chemical Stops Polio Virus

► THE FIRST chemical that will stop the growth of infantile paralysis virus in human tissue without damaging the tissue was reported by Drs. Gordon C. Brown and W. W. Ackerman of the University of Michigan to the Federation of American Societies for Experimental Biology meeting in Cleveland.

The chemical is ethionine, a relative of methionine, which the body uses in building up proteins.

Ethionine will not be used to treat polio patients until further tests have been made with it and similar compounds in animals, according to a statement by Dr. Brown.

The results he reported were from tests with small pieces of tissue growing outside the body. This did not take so much ethionine. Enough of the chemical to stop

virus growth in the whole body "would probably produce undesirable results," Dr. Brown explained.

The importance of the finding, in his opinion, is that it "opens the door" to a research approach that may lead to discovery of a safe anti-polio drug. This is the growing of polio virus in human tissue outside the body. The technique is used in very few laboratories. In most laboratories, monkeys are used for study of the behavior of the polio virus and of the effects of various drugs on it.

Ethionine, Dr. Brown reported, stops the polio virus by acting on the human tissue cells. The drug's interference with chemical reactions in these cells keeps the virus from getting growing material.

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CHEMISTRY

Trace Metallic Impurities

► TINY TRACES of metals in new and used lubricating oils and other traces that may exist in pulverized catalyst used in gasoline cracking were matters of grave concern to petroleum chemists at the meeting of the American Petroleum Institute, Tulsa, Okla. Spectrographic means are now successfully used in their detection.

The amount of iron found in crankcase drainings is an indication of the wear taking place in the engine during operation. A knowledge of the amount and type of wear is important to both engine designers and manufacturers of lubricants.

A rapid, accurate method of determining the iron content of used lubricating oils was described by John Hansen, Paul Skiba and C. R. Hodgkins, Standard Oil Develop-

ment Company, Linden, N. J. It is a spectrochemical method, which can be used to measure very low and relatively high iron concentrations without any variations in the technique.

In the present-day manufacture of petroleum products, minute traces of metallic substances often influence greatly the methods and costs of processing or the quality of these products, the Institute was told by E. L. Gunn, Humble Oil and Refining Company, Baytown, Texas.

He referred to very finely pulverized dry material used in the so-called fluid-catalytic cracking of petroleum oils to produce the components of gasoline as an example. The presence of only a few pounds of trace metals, such as iron or sodium, in a ton of

the catalyst may have an adverse effect on the quality and distribution of the cracked products obtained.

He described an emission spectrographic method by which as little as one part of chromium in 100,000 parts of catalyst can be detected. In the process a very small amount of the catalyst is subjected to the high heat of an electric arc. The spectrum of light given off by the incandescent vapors is used to identify and measure the elements present in it.

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