CHEMISTRY

Better Synthetic Rubbers

➤ BETTER synthetic rubbers for industry were made known to the American Chemical Society meeting in Atlantic City, N. J.

Withstanding dry heat up to 400 degrees Fahrenheit and at the same time resistant to oil, gasoline and sunlight deterioration, a new polyacrylic and hydrocarbon synthetic called Hycar PA was reported by H. P. Owen of B. F. Goodrich Chemical Co., Cleveland.

The new Goodrich rubber will be used for hose, protective coatings on glass and asbestos, insulation on wire, conveyor belts and particularly where light or pastel colored products requiring color permanence are needed. White goods made from this rubber will not discolor in the sunlight.

New Neoprene Rubber

A new kind of neoprene rubber which will not deform materially under the weight of vibrating machines was announced by D. B. Forman, L. R. Mayo and R. R. Radcliff of Du Pont's Organic Chemicals Department. It will have particular application in mounting motors where the rubber vibration dampener is subjected to heat and oil which neoprene resists.

A new method of increasing the sunlight resistance of neoprene rubbers was reported by D. C. Thompson and N. L. Catton of the same company. The weather resistance of colored neoprene products is increased by use of compounding materials that are clays although other additions to the rubber do decrease weather resistance.

Science News Letter, October 1, 1949

BIOCHEMISTRY

Beryllium Poisoning Aid

➤ AN ANTIDOTE or treatment for beryllium poisoning may be on the way, thanks to researches by scientists at the University of Chicago Toxicity Laboratory.

Beryllium, used in making fluorescent lights and in many other industrial processes, poisons by interfering with the body's use of sugars and starches, these scientists, Drs. Kenneth P. DuBois, John Doull and Kenneth W. Cochran, announced at the meeting of the American Chemical Society in Atlantic City, N. J.

When beryllium dust is breathed into the lungs, or when the metal gets into the body in other ways, it competes with the calcium and magnesium from food. Both calcium and magnesium are needed for the breakdown of sugars and starches to give energy. Beryllium apparently can combine with the same compounds in the cell that calcium and magnesium can combine with, but it cannot perform the vital functions of these metals. When it takes their place it therefore blocks the sequence of normal chemical events in the body cells.

The results show up in the serious lung damage which is one form of beryllium poisoning or in bone cancer, rickets and a general failure of metabolism.

The Chicago toxicologists did not report a treatment for beryllium poisoning, but Dr. DuBois said:

"After the mechanism of action of a toxic substance is understood, then attempts to treat the condition can be undertaken in a scientific manner. Fundamental research on the chemistry of beryllium poisoning may lead to the development of an effective means of therapy (treatment)."

Question Box

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BIOLOGY

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CHEMISTRY

In what ways is a new synthetic yarn outstanding? p. 218.

What are the advantages of a new kind of odorless paint? p. 214.

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GENERAL SCIENCE

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MEDICINE

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NUCLEAR PHYSICS

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PHYSICS-MATHEMATICS

What may give the earth its magnetic field? p. 222.

Photographs: Cover, p. 219, Du Pont Co.; p. 211, Ford Motor Co.; p. 213, Allis-Chalmers; p. 215, Firestone Tire and Rubber Co.; p. 218, Fremont Davis.

The highly valuable properties of beryllium alloys, particularly the copper-beryllium alloys, have greatly increased the metal's industrial importance in recent years.

The chances for exposure to beryllium dusts, Dr. DuBois said, are fairly numerous in industry and may be encountered during virtually all stages of beryllium production.

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