

CHEMISTRY

Better Tires From Nylon 7

► A SIMPLE, economical process has been developed for a new kind of nylon that has superior qualities for tire cords, fish lines and wearing apparel, the American Chemical Society was told in St. Louis by Dr. C. F. Horn of Union Carbide Chemicals Company of South Charleston, W. Va.

The new nylon is called nylon 7 because it is a polymer of an amino acid containing seven carbon atoms. Ordinary nylon is called nylon 66 because it is composed of giant molecules produced by combining molecules containing six carbon atoms and two acid groups with molecules containing six carbon atoms and two amino groups. The latest kind of nylon to be introduced into this country from Europe was nylon 6. It is a polymer of an amino acid containing six carbon atoms.

Nylon 7 can be produced by boiling the ethyl ester of aminoheptanoic acid in water. The white waxy-to-brittle product can be stored or spun immediately into strong fibers. This contrasts markedly with the several steps involved in the commercial production of its two chemical cousins, nylons 66 and 6.

Nylon 7 is especially suitable for tire cords since its high softening temperature, 430 degrees Fahrenheit, enables it to withstand the deteriorating effects of the heat build-up from friction. Clear, tough films and molded objects of good impact resistance can be made from this material.

B. T. Freure, H. Vineyard and H. J. Decker joined in the research.

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Taste of Milk

► THE TASTE of milk can be controlled and changed by chemical means, scientists were told at the American Chemical Society meeting in St. Louis.

The major loss in palatability of milk products is caused by odorous chemicals absorbed from the animals' feed, Dr. Vladimir N. Krukovsky, Cornell University, told a symposium on milk and its products. Rancid odor and bitter taste are caused by the breaking down of fats in raw milk. Chemical reactions also cause metallic or fishy, oily and, occasionally, cardboard-like flavors in milk and milk products.

Vitamin C and oxygen play an important part in these chemical reactions, Dr. Krukovsky said. Rapid chemical methods have been developed for lowering the total vitamin C content. Not only do these methods postpone the harmful effects, but they also remove feedy flavors, he added.

Dr. R. D. McCarthy, Pennsylvania State University, reported on the microorganisms within the cow that affect the production of milk. Feed is degraded and altered by bacteria and other organisms in the first stomach of the cow, he said. These microorganisms chemically change substances in

the cow's food. The changes are an essential part of the digestion process.

By selecting certain microorganisms or by stimulating them to change their chemical composition, the digestive products can be altered. In some cases, Dr. McCarthy concluded, this can have an important effect on the metabolism of the cow and the composition of milk.

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Clue to Epilepsy Cause

► A DISCOVERY that should eventually aid in determining the exact cause of epilepsy has been reported.

Epileptic convulsions have been produced in laboratory rats by massive doses of the common insecticide dieldrin. These convulsions were accompanied by an abnormal chemical condition in the brain of the rats, identical to that found in the human brain during an epileptic seizure.

Dr. E. A. Hosein, assistant professor of biochemistry, and Mrs. Roushan Ara, a graduate student from Pakistan of McGill University reported these findings at the American Chemical Society meeting in St. Louis.

Analysis of the brain fluid from these experimental animals showed that a mixture

EDUCATION

Ability More Than I. Q.

► GREAT INTELLECTUAL ability is where you find it, John M. Stalnaker, president and director of the National Merit Scholarship Corporation, said in the 1961 Walter V. Bingham Memorial Lecture given at the Carnegie Institute of Technology in Pittsburgh. It is not possible to predict, he has found, from a parent's occupation and economic background whether or not his child will have unusual mental ability.

"The public has a false image of the very bright student," Mr. Stalnaker said. They see him as a rather peculiar, introverted type—perhaps smaller in physique than the average, somewhat antisocial and probably rather narrow in his interests.

High school students selected as Merit Scholars show that "the brainy can be brawny, too." Gifted young persons generally are taller, heavier, and physically and mentally healthier than those of average intelligence.

They have a greater interest in people, less of a tendency to withdraw from social situations and show more sophistication and greater self-confidence than the average person. They are less tense, less anxious, less given to feelings of insecurity or depression.

Another mistake made by the public, in

of biochemicals had been dislodged, and the chemicals migrated to parts of the brain not ordinarily accessible to them. This mixture, when injected into the brain of a normal animal, produced epileptic-like convulsions.

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IMPROVED TUBE LIFE—A chemical wire coating, developed by RCA Electron Tube Division, Harrison, N. J., is expected to extend the life of radio and television tubes.

Dr. Stalnaker's opinion, is the overemphasis placed by parents, teachers and even the students themselves on the IQ. The IQ is overrated, Mr. Stalnaker said.

The pupil, the teacher and the parent should put their attention not on IQ but on results, he advised. The burning desire to excel, to be first, to be best can wisely be traded for a dozen IQ points any day. In every aspect of life, it is what one accomplishes that counts, not what his unused intelligence is, or what he might have done under other circumstances.

Teachers and parents should not discourage students from trying to excel because they have low IQ, Mr. Stalnaker said.

The National Merit Scholarship Corporation, of which Mr. Stalnaker is head, during the year 1959-60 provided scholarships to students of exceptional ability, amounting to over \$2,200,000 and assisted privately supported colleges with over three-quarters of a million dollars.

The Bingham Lecture series honors the late Dr. Walter Van Dyke Bingham, a psychologist who pioneered in the recognition and measurement of various kinds of talent, particularly in the scientific and technical fields. It was established by Dr. Bingham's widow, Millicent Todd Bingham.

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