ENGINEERING

New Better Refrigerant

➤ A NEW and more efficient refrigerant for use in air-conditioning and refrigeration, developed by Carrier Corporation, Syracuse, N. Y., promises economy because with it fewer machines are required to do the same number of jobs. It produces a higher refrigerating effect.

It will be known as Carrene-7. It was developed under the direction of Dr. William A. Pennington. In the work he was assisted by Winston H. Reed, holder of a Carrier fellowship at Syracuse University.

The new refrigerant is a carefully proportioned mixture of two fluorinated hydrocarbons. One is Freon-12. The other is Genetron-100. Chemically, Freon-12 is dichlorodifluoromethane. The additive is an unsymmetrical difluoroethane.

An important property of the mixture is that it always boils at the same constant temperature corresponding to a particular pressure. In technical language, it is an azeotropic mixture.

Carrene-7 possesses all the desirable properties required for a safety refrigerant, and also permits a reciprocating compressor charged with it to produce a substantially greater refrigerating effect.

Carrene-7 satisfies all of the important requirements for a useful refrigerant, it is claimed. It is chemically stable, non-inflammable, physiologically safe, and does not attack or corrode the common materials of construction.

Another property, important to technical men, is that it solves the 50-cycle problem. It provides almost exactly the same capacity with 50-cycle current as Freon-12 does with 60-cycle current. It has a capacity about 18% higher than Freon-12 where the same compressor is employed at the same speed. In fact, its discovery came as a result of a search for a refrigerant which, when charged into a hermetic system designed for Freon-12 and 60-cycle power supply, would maintain the same capacity when 50-cycle power was used.

Science News Letter, May 27, 1950

PSYCHOLOGY

Fast Reading Needed For College Success

➤ A COLLEGE student must be a fast reader or he cannot keep up with his work.

Unless a student has an average reading speed of about 350 to 400 words a minute, he will be overwhelmed by the reading demands made on him. This is what Dr. Stella S. Center, director of the Reading Institute of New York University, told the American Society for Engineering Education convention in Bethlehem, Pa.

But comprehension is even more important than speed, Dr. Center pointed out.

"The student must be able to translate words, figures, equations, formulas into concepts that have meaning for him," she said. "The mental operation is the same, whether it is focused on one of Shelley's sonnets or an equation of Einstein."

Still, if the student does not have reading skills when he gets to college, it is not too late for him to develop them, Dr. Harry T. Hahn, director of the Reading and Study Clinic of Lehigh University, told the same meeting.

A survey made three years ago related that 65% of the class of 1951 at Lehigh felt that they had poor reading skills or inadequate study habits.

These skills can be developed, Dr. Hahn declared. "Improvement programs in many colleges and universities give proof of this."

Science News Letter, May 27, 1950

Question Box

AGRICULTURE

What is the reason for the wood chip diet for corn? p. 332.

BACTERIOLOGY

What is the antibiotic which is being used to preserve food? p. 325.

ENGINEERING

What is the function of the "tool dolly"? p. 323.

GENERAL SCIENCE

What was Millikan's message to the science fair finalists? p. 326.

MATHEMATICS-ENGINEERING

How does the new atom smasher differ from the old ones? p. 333.

MEDICINE

What element of great importance has recently been discovered in the human mother's milk? p. 323.

What is the drug which has successfully treated hitherto incurable cancer? p. 322.

Photographs: p. 323, General Electric; p. 325, Westinghouse; p. 336, Tennessee Eastman Corporation.

● RADIO

Saturday, June 3, 3:15-3:30 p. m. EDT

"Adventures in Science" with Mr. Watson Davis, Director of Science Service.

Dr. Philip Morse, Deputy Director and Director of Research of the Weapons Systems Evaluation Group, Office Secretary of Defense, will talk on "Using Science To Help Run Things."

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