

## PHYSICS

## Strength in Antifreeze

► THERE IS no guesswork in determining if the mixture in the automobile radiator contains enough antifreeze to give the required protection with a practical protection indicator developed at the National Bureau of Standards.

It may be used with all types of antifreeze solutions or any mixture of them now on the market.

The hydrometer usually employed is satisfactory if the antifreeze solution contains only ethylene glycol or one of the common alcohols. On the other hand, it has little value in determining the effectiveness of antifreeze mixtures containing propylene glycol, a mixture of glycols, a mixture of alcohols or any combination of these materials.

The indicator is an easily constructed device, developed by R. B. Rudy and J. I. Hoffman of the Bureau staff, in which a sample of the solution in the radiator is chilled to determine its actual freezing

point. The test shows the lowest temperature at which the solution will continue to flow through passages of the size used in radiators.

Heart of the device is a brass cylinder having a passage the size of those in a radiator through which a sample of the solution flows from a vertical glass tube at one end. The cylinder is in a copper box which is filled with dry ice, solid carbon dioxide.

When flow stops because of freezing, the cylinder is removed and allowed to warm slowly. Thawing is indicated by the first drop of the solution from the cylinder. It is the second drop to fall, however, that indicates that a flowing temperature has been reached and gives the lowest temperature at which the solution will flow in the automobile radiator. A special type of thermometer is used to show the temperature of the solution within the cylinder.

Science News Letter, December 22, 1951

## MEDICINE

## Eczema Itching Relieved

► PATIENTS WHO for years have been tormented by itching, ugly eczema can be relieved of the itching, sometimes within a matter of hours, by ACTH and cortisone, the hormones that relieve arthritis. A few days later the eruption itself subsides partially or completely.

The good results of these hormones in eczema were reported by Dr. Robert R. Kierland of the University of Minnesota Graduate School and the Mayo Clinic at the meeting of the American Academy of Dermatology and Syphilology in Chicago.

But, Dr. Kierland warned, "these hormones do not cure eczema." If the cause is not dealt with, the eruption comes back within a few days or weeks after the hormone is stopped. Sometimes the eruption

is worse than it was before treatment. He also warned that if the hormones are continued for a long period of time, the patients become dependent upon and even "addicted" to the hormones.

In cases of acute hives, ACTH and cortisone make the hives disappear completely or almost completely. If the condition was an allergic reaction that would clear up by itself in time, such as the hives some people get from strawberries or shell fish, the eruption will not come back when the hormone is stopped. The hormones also produce marked benefit in chronic urticaria, or hives, and are especially helpful in controlling itching reactions to drugs and antibiotics including serum sickness.

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## HYGIENE

## Health Rules for Holidays

► BEFORE YOU get into the last minute rush of the holiday season, give some thought to safeguarding health and life during this busy but often dangerous period.

One of the big dangers is that of traffic accidents. Bad weather, slippery roads, added hours of darkness, heavier traffic, bulky, vision-obscuring packages in the arms of pedestrians and holiday spirit fortified with alcoholic spirits are factors that lead to more accidents on streets and highways.

Being extra careful may take a few minutes more time but doing so may well save

you days, weeks or months of suffering and illness.

Accidents can happen at home, too, if you use dangerous shortcuts or grow forgetful in your haste. Don't stand on a flimsy carton or a chair to reach a shelf or the top branches of the Christmas tree. Use a sturdy ladder. Remember to turn off the electric iron after that last minute pressing job even if it is late at night. Maybe it would be better to do the job the next morning when you are not too tired to remember.

Remember that you need regular rest and regular nourishing meals as much now as at any other season. Do not skimp on either. Nibbling on holiday goodies may keep you from feeling hungry, but the goodies seldom replace the nourishment, in the way of protein, vitamins and minerals, that regular meals supply.

If you get overtired, you may be an easier prey to disease germs. Crowds in shops, buses and street cars increase the number of germs floating in the air you breathe when you get in these crowded places and thus increase your chances of picking up such germs. Regular, nourishing meals and enough sleep every night will help you fight off these germs.

Don't try to keep going with a bad cold. Pneumonia is not the disease it used to be but it is still a disease to reckon with and many a so-called bad cold is really the beginning of pneumonia.

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## ● RADIO

Saturday, Dec. 29, 1951, 3:15-3:30 p.m. EST

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Watson Davis will present highlights of the meeting of The American Association for the Advancement of Science being held in Philadelphia.

## MEDICINE

## Glowing Skin Helps Fight Allergy Disease

► SKIN THAT glows under ultraviolet light is giving doctors new knowledge for fighting allergies and skin diseases.

This new technique for studying blood circulation in the skin and underlying tissues was reported to the American Academy of Dermatology and Syphilology by Dr. Alfred A. Schiller of the University of Illinois College of Medicine in Chicago.

Circulation of the connective tissue elements of the skin, or both, are changed in patients with allergic skin diseases, such as hives, Dr. Schiller has found.

Characteristic changes are found when a medicine, such as ACTH, is given.

For these studies about one drop of a fluorescent dye is injected into the skin of the patient's arm. A photocell ultraviolet light source unit is placed over the injected place and the intensity of the fluorescence is measured at regular intervals until the dye is completely absorbed. This tells the doctor how long it takes for the blood circulation to remove a known amount of the dye. From this he can tell whether the circulation is normal or changed.

The test takes from 15 minutes to one hour and does not give the patient any pain or discomfort.

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