

# The Poison in Your Anti - Freeze

Chemistry—Public Health

## Cheaper Production Promises More Wood Alcohol

WILL PEOPLE get chronic or acute poisoning if wood alcohol is used generally as an anti-freeze mixture for automobile radiators? This is one of the questions which government scientists are trying to solve as a result of the proposal to introduce synthetic methanol as an anti-freeze next winter.

Methanol, as wood alcohol is called by chemists, used to be made by distillation of wood. This made its cost high. By the new method, it is made by combining the deadly carbon monoxide with hydrogen, the raw materials being coal and water. This makes synthetic methanol very much cheaper than the product obtained by distillation. Whether it can be used safely in automobile radiators has yet to be determined.

When swallowed, wood alcohol is a poison which may cause blindness and death. Careless bootleggers have mistaken wood alcohol for the less deadly ethyl alcohol, with disastrous results to their clients. This use of the new anti-freeze is to be guarded against by giving it a distinctive color, it is planned.

However, the question remains whether the fumes could not get into the body either by absorption through the skin or by inhalation through nose and mouth, and thus cause disease and possible death. How much of the substance can get into the body in these ways, and how much will cause poisoning, either chronic or acute, must be determined.

### Safety Regulations

It may be that the new anti-freeze can be used safely if certain regulations are followed and certain precautions taken, as in the case of the anti-knock gasolines. These contain a small amount of tetra-ethyl lead. When they were first introduced there was question as to whether people generally

would be in danger of lead poisoning from the exhaust, and whether men selling it and working in garages where it was sold were risking their health. Cases of lead poisoning in the plants where the anti-knock mixture was made heightened the public anxiety. But scientists found that the only real danger was in the manufacturing plants and that even there, as in other lead industries, certain health precautions, if followed, would safeguard the workers.

A possibility exists of certain people being more susceptible to methanol poisoning than others, and of certain people having the kind of skins that would absorb more of it than others. This also will be investigated, said Dr. R. R. Sayers of the U. S. Public Health Service, who is in charge of the investigation. Chemists of the U. S. Bureau of Mines at Pittsburgh will make chemical and laboratory tests, working with animals. The U. S.

Public Health Service is making field tests on men who are now exposed to synthetic methanol.

Ethyl alcohol, closely related to methanol which is methyl alcohol, is largely used at present as an anti-freeze in automobile radiators. Its chief disadvantage is that it evaporates quickly and must be constantly replaced. It is not poisonous like methanol, because man can develop a tolerance to it. Another popular anti-freeze is ethylene glycol, which is made synthetically from petroleum and has the advantages of both ethyl alcohol and of glycerine, also widely used as an anti-freeze. Ethylene glycol and glycerine are more expensive than ethyl alcohol, which in turn costs more than synthetic methanol. The latter is being made by three large companies who make over six million gallons a year.

Science News-Letter, September 20, 1930

### Bird Suicides

GERMAN and Dutch lighthouses have taken out insurance against suicide by migratory birds. In the past, birds have dashed against the lenses over the lanterns, dashing themselves to death. The great light at Heligoland, situated right in one of the main migration paths, was an especially bad offender. Finally, Dr. Weigold, who was for many years head of the ornithology station there, installed a ring of lights around the outside of the tower, to illuminate its ramparts, railings and cupola. This gave the birds some landmarks other than the blazing eye of the light itself, and enabled them to find perches on which to rest.

The system has been installed on other German lighthouses, as well as in Holland, and everywhere the results have been satisfactory.

Ornithology

Science News-Letter, September 20, 1930

### The Answer Is In This Issue

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