life sciences notes

POISONS

Carbon tetrachloride may be banned

The Food and Drug Administration has proposed banning carbon tetrachloride from the household goods market. Carbon tet is a familiar domestic solvent and cleaner that has fallen lately into disrepute. The action would be the second taken under a provision of the Child Protection Act of 1966 which empowers the FDA to remove from the market any hazardous substance which the agency feels cannot be used in the home safely despite the most stringent labeling.

FDA banning of carbon tetrachloride would not affect its use in industry or the laboratory, where it is a workhorse solvent. In the home, in the hands of children or the inexperienced, the substance has been blamed for a number of deaths. In recent years less and less of it has found its way into products for the housewife, due partly to strict FDA labeling requirements. The proposed action would dry up the last trickle.

Carbon tetrachloride is credited with being one of the more dangerous of the common chlorinated hydrocarbons, primarily because its biological action appears to be cumulative. It can cause degeneration of the liver and kidney and aplastic anemia under chronic exposure.

BACTERIOLOGY

New bacterium found in bovine lymphosarcoma

A hitherto unidentified bacterium has been isolated from two cases of bovine lymphosarcoma. An antibody to the organism prepared in rabbits led to demonstration of the bacterium in three other cases.

K. A. McKay, D. H. Neil, and A. H. Corner of the Canadian Animal Diseases Research Institute report in the December issue of GROWTH just received, that the initial isolation was made while growing the organism in broth. It grows in the medium as a spherical cell possibly having a defective cell-wall. On agar plates it is a Gram-positive rod. The researchers note that the bacterium possesses properties that would not normally be expected to be found in organisms inhabiting bovine tissues. They note also that the sometimes spherical form may enable the bacterium to be "subtly hidden" within the living tissues. The nine cases of lymphatic cancer studied were collected at different Canadian farms.

Whether or not this bacterium plays a part in the disease is questionable, the discoverers say. But they suggest more research into a possible bacterial role in cancer.

WORLD HEALTH

Brain drain to be eased

Nine countries in the World Health Organization's Southeast Asia region will be served by a new institute in Ceylon, which in addition to helping international research may ease the brain drain from these areas.

It will take three years to complete the physical building to house the research, which will be directed to the mentally and physically handicapped.

Ceylon's World Health Foundation has obtained the agreement of WHO to establish the research and rehabilitation institute in Colombo. Similar foundations have been formed in the United States, Britain, Canada and Switzerland to raise money for the United Nations medical agency, which cannot solicit itself. Dr. W. H. Davis, Canadian adviser to the Ceylonese Foundation under the Colombo Plan, says this site was chosen because of the excellent relationships of Ceylon with the other nations.

The new institute will train professional and technical staff, educators and social workers to serve the nine countries of WHO's Southeast Asia region. It will be operated under professional WHO guidance, and workers around the world will be invited to come for training or for research.

BIOENGINEERING

Surgery trends show interaction

Trends in surgery are toward bioengineering, Dr. James Dickson III of the National Institute of General Medical Sciences, Bethesda, Md., told the 29th convention of the Society of University Surgeons in New York City.

"The National Institutes of Health are working in the major areas of artificial hearts, artificial kidneys and in the automation of clinical laboratories, including computers," Dr. Dickson explains. "The interest has become so great that we have to find necessary funds in some way. Five years ago the funds were available but we were not far enough along in our research to justify using them. NIH intends to continue expanding its support of biological mechanisms as rapidly as it can."

Illustrating the interaction of the fields of biology, medicine, physics and engineering, Dr. Dickson calls attention to a new committee set up by the National Academy of Engineering, with a surgeon, Dr. Richard H. Egdahl of the University Hospital, Boston University, Medical Center, as a member.

In April of this year, the American Surgical Association meets in Boston and is devoting an entire day before the beginning of their regular sessions to a symposium on bioengineering, instrumentation and other problems in which surgery interacts with other fields.

BLOOD CALCIUM

Thyrolcalcitonin inhibits calcium resorption

The thyroid hormone thyrocalcitonin has been found to lower blood calcium levels by a back-door method. Drs. G. D. Aurbach and J. L. H. O'Riordan of the National Institute of Arthritis and Metabolic Diseases report that the hormone TCT inhibits resorption of calcium from bone.

They find that TCT has no effect on the disappearance of injected radioactive calcium from the bloodstream. It does, however, halt the normal decline in the ratio of radio-tagged to native calcium, indicating that calcium is not reentering the bloodstream from skeletal reserves.

The mechanism by which the hormone exerts this effect has not yet been discovered.