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CHINA ENRIP. NEWS

CONCENTRATES

Science

✓ High cancer rates among workers exposed to PCB's have been reported to the National Institute for Occupational Safety & Health by Mobil Oil. According to NIOSH, the Mobil data are the first from either animals or humans to suggest a correlation between exposure to polychlorinated biphenyls and increased skin and pancreatic cancers. Mobil reports that eight cancers developed between 1957 and 1975 among 92 R&D and refinery workers exposed for five or six years in the late 1940's and early 1950's to varying levels of Aroclor 1254, a mixture of PCB's. Of the eight cancers, three were malignant melanomas, or skin cancers, and two were cancers of the pancreas. NIOSH says that this is a significantly higher rate than would be expected in a population of that size.

The exact amount of DDT in meat doesn't seem to matter to rats. There were no differences in DDT retention for rats fed for 120 days with cooked beef containing amounts of the pesticide moderately above and below the FDA tolerance level of 5 ppm in rendered fat, according to Dr. Robert W. Rogers and coworkers at Mississippi State University. Other rats were fed meal with DDT added to double the original concentrations of 4.25 ppm and 7.55 ppm. Adding DDT increased its retention in rats, but toxicity effects measured by mixed function oxidases and formation of smooth endoplasmic reticulum in the liver did not always increase with increasing DDT. One reason may be cooking, which removes about half the DDT from beef, Rogers says.

There's ozone in Mars' atmosphere, say earth-bound scientists who have been studying the planet through telescopes. The group, which includes researchers from the National Oceanic & Atmospheric Administration, the Smithsonian Astrophysical Observatory, and France's National Center for Scientific Research, used powerful telescopes at Mt. Hopkins, Ariz., to detect the infrared radiance of excited oxygen molecules produced by the photochemical breakup of tritomic oxygen. Peak ozone concentrations occur at about 30 km altitude on Mars, the group believes.

Jupiter's hydrogen atmosphere may behave something like earth's atmosphere and something like the oceans. This is the conclusion of Dr. Gareth P. Williams of the National Oceanic & Atmospheric Administration, who applied a computer model of the earth's atmosphere to Jupiter. He found that it not only reproduced the patterns known to exist but provided new explanations of such visible features as the great red spot (a special type of large stationary eddy) and the horizontal stripes (jet streams traveling in opposite directions). It also revealed a four-year cycle in the transfer of heat (compared to earth's cycle of about a month).

An unmanned Soviet spacecraft, Luna 24, made a one-

moon's crust, placed the samples in airtight container and lifted off on Aug. 19 for return to earth. Landing earth was scheduled for Aug. 22 within the U.S.S.

An electron spin resonance (ESR) spectroscopy source" has been set up by NMR with a 3700,000 to the Medical College of Wisconsin, Milwaukee purpose of the grant is to allow scientists from all the U.S. to use ESR to study the role of paramagnetic molecules in cellular chemistry and in the development of various diseases. Wisconsin researchers also have used it to identify the presence of melanin in melanotic tumor, a type of malignant melanoma which melanin production is low.

Education

A new B.S. degree with a major in engineering chemistry is being offered this fall by the State University of York, Stony Brook. The new major is sponsored by the chemistry and materials science department and is aimed at students interested in solid chemistry and materials technology. The program focuses on modern industrial processes and is designed to provide background in polymeric materials, conductor processing, modern technology and nonmetal problems in industry, mineral resource biomedical materials application.

Technology

Generation of electric power using liquid fuels derived from coal will be evaluated for economic and feasibility by five utility companies and Stone & W. Engineering Corp., which have joined to form the East Coal Utilization Program (NECUP). The \$2 first phase of NECUP is due for completion by 1 of the year. Use of mixtures of oil with finely ground and processes that add hydrogen to coal under pressure among the operations to be reviewed. The five companies are Boston Edison, Long Island L. New England Power, New England Gas & Electric Northeast Utilities.

Common clays can help catalyze complex chemical reactions, say researchers at Michigan State Univ. By binding catalytic materials to clay particle surfaces, researchers say they can dramatically increase the rate of chemical reactions and limit the formation of undesirable side products. Clay particles consist of stacked layers of negatively charged silicate sheets each less than 2 microns in diameter. Positively charged ions such as sodium and calcium generally are sandwiched between the plates. Standard ion exchange methods are used by the MSU scientists to replace naturally occurring ions with catalytic ions.

The impact of existing and proposed energy facilities on the lower Ohio River basin will be studied by researchers at the state university in Indiana.

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