practice controls might result in a loss of coke production, thus increasing the ratio of energy used to coke produced.

There also would be a resultant loss of fuels produced as by-products in the coking process. The statement cited figures from Bethlehem Steel Corporation estimating losses of coke oven gas, coal tar, and light oil.

However, offsetting energy savings could be achieved as well under the proposed standard, OSHA said. These savings would come in the form of (1) coal saved in producing less coke, (2) the production of higher quality coke, which would be more efficient in steelmaking, and (3) retention of more of the by-products in the coke ovens, which otherwise would be lost as emissions.

Use of new land would not be necessitated by the proposed standard, the statement said. Even if expansion is undertaken to offset possible loss in coal production, this probably would not involve land development.

The impact statement is available for inspection and copying at the Technical Data Center, U.S. Department of Labor, Room N-3620, Third Street and Constitution Ave. NW, Washington, D.C. 20210, phone (202) 523-8076. Ten copies of the statement will be forwarded to the Council on Environmental Quality.

Health Hazards

WARNING ON POSSIBLE EXPLOSIVE HAZARD OF SODIUM AZIDE DISSEMINATED BY NIOSH

The hospital and clinical laboratory use of sodium azide may pose a serious explosive hazard, according to an intelligence bulletin issued by the National Institute for Occupational Safety and Health.

Violent sodium azide-related explosions associated with automatic blood cell counters have occurred recently at a number of hospitals in the United States and Canada, NIOSH said (Current Report, June 10, p. 42). Another reported explosion took place while a constant temperature water bath in which sodium azide had been used as a preservative was being repaired.

A common preservative in many diagnostic products, sodium azide is found in concentrations up to 0.1 percent in diluents used with automatic blood cell counters. After a blood count is completed, the waste (containing azide) commonly is discharged into a drain used solely for this purpose.

A hazard arises when, over a period of time, the azide reacts with copper, lead, brass, or solder in the plumbing to form an accumulation of lead and/or copper azide, NIOSH said. Lead azide is a more sensitive primary explosive than nitroglycerine and a more effective detonating agent than mercury fulminate. Copper azide is even more explosive and "too sensitive to be used commercially."

Explosions triggered by these substances "have the propensity to propel metallic fragments over a wide area and the potential for causing serious injury to exposed workers and others in the vicinity," NIOSH said.

To retard future accumulations of lead and copper azides, any drain known to receive azides should be flushed thoroughly with "copious amounts of water" several times a day. Future accumulations also may be prevented by using azide-free reagents, or copper and lead-free lines between the point of azide discharge and the nearest pipe in which there is a good stream of water.

Drain Decontamination

Plumbing systems already containing lead and/or copper azide should be decontaminated as follows:

- Syphon all liquid from the trap and drain using a soft rubber or plastic hose, following proper precautions against any hazardous chemicals which may be present.
- Slowly pour a solution of one to two liters of 10 percent sodium hydroxide into the trap.
- Tape to the sink a sign reading "Do Not Use Sink . . . Contains Caustic Material."
- Allow the solution to remain in the trap for at least 16 hours, then flush the drain with water for a minimum of 15 minutes. If the drain will not flow, the solution should be removed by syphoning and diluted with water.

When it is not possible for a drain line to be filled with sodium hydroxide solution for at least 16 hours, five gallons of the solution should be poured into the piping rapidly enough to simulate the flushing action of a water closet. The pipe should remain undisturbed for at least 16 hours, then should be flushed with copious amounts of water. The procedure should be repeated two more times at intervals of a week or so.

Other procedures for decontamination are listed in the January 1975 issue of Journal of Chemical Education, NIOSH said. The agency cautioned that gloves and face shields should be used when breaking the drain line or trap for maintenance, because of the possibility of residual sodium hydroxide. "Extreme caution" should be observed when plugging a drain line potentially contaminated with heavy metal azides.

NIOSH noted that laboratory maintenance workers, particularly plumbers, should be alerted to the azide hazard so that proper precautions can be taken. Explosions have resulted from plumbers attempting to penetrate blocked azide-contaminated drainage systems with a flexible metal probe, or to cut or saw azide-contaminated drain lines.

Health Hazards

NIOSH REPORTS ON POSSIBLE LINK OF CANCER, POLYCHLORINATED BIPHENYLS

Results of a study on occupational exposure to polychlorinated biphenyls (PCBs) at a Mobil Oil Corporation plant in Paulsboro, N.J., show "significantly more skin cancer (melanoma) and pancreatic cancer than would be expected in a population of this size," according to the National Institute for Occupational Safety and Health.

NIOSH issued the information in a report dated August 20. The data were derived from a study by Anita K. Bahn, University of Pennsylvania School of Medicine, in which medical records for 92 workers at the Paulsboro plant were investigated.

According to the report, eight cancers (in seven workers) were observed between 1957 and 1975. Of these, three were malignant skin cancers and two were cancers of the pancreas. The remaining cancers were found in two employees at three other sites: sarcoma of the right thigh and multiple myeloma in one employee, and recto-sigmoid cancer in the other.

NIOSH said it was unaware of any other published human or animal data suggesting a correlation between exposure to PCBs and skin or pancreatic cancer. However, hepatomas and hepato cellular carcinomas have been reported in PCB feeding studies of laboratory animals.

The agency noted that it had issued an intelligence bulletin on PCBs in November 1975 (Current Report, November 6, p. 798). Since then, "a number of large firms have introduced products (e.g., butylated monochlorodiphenyl oxide and dimethyl siloxane polymer) claimed to be fire resistant dielectrics which can serve as alternatives to PCBs. In addi-

tion, one of the large domestic transformer manufacturers announced that it will cease using PCBs as fire resistant transformer fluids at the end of this year."

Alternatives to PCBs should be studied thoroughly to assess the consequences they may pose to human health, NIOSH said. The agency also requested reports to studies on "the possible association between exposure to PCBs and human cancer."

Chemicals

TOXIC SUBSTANCES CONTROL BILL IS PASSED BY HOUSE BY 319-45 VOTE

A toxic substances control bill (HR 14032) was passed by the House on August 23. Despite opposition from the Office of Management and Budget (Current Report, August 19, p. B501), the working coalition that produced the bill held together, and the measure passed by the wide margin of 319-45.

Congressman John M. Murphy (D-NY), chairman of the House Commerce Subcommittee on Consumer Protection and Finance and floor manager of the bill, called the measure the most important piece of health and environmental legislation to be considered in this session of Congress.

A Senate-House conference committee meeting on the bill is scheduled for September 8.

The bill provides that the Environmental Protection Agency may by rule require testing (including bioassay for carcinogenesis) of any chemical substance that may pose a substantial hazard to health or the environment and that a manufacturer of a new chemical substance must notify EPA at least 90 days before the start of manufacture. For substances found to be hazardous, EPA would have regulatory authority ranging from labeling requirements to a complete ban.

HR 14032 resulted as a compromise between Congressmen Bob Eckhardt (D-Tex) and James T. Broyhill (R-NC), Congressman John Y. McCollister (R-Neb) warned offerors of amendments that the bill had been carefully arrived at and represented "a delicate balance." The bill represents a somewhat less stringent regulatory authority than its predecessor, HR 10318, which was adopted by the Senate as S 3149. An important difference is that the Senate bill would allow EPA to block production of a chemical pending testing by an immediately effective rulemaking procedure, while the House bill would require EPA to obtain an injunction from a U.S. District Court.

Congressman Neal Smith (D-Iowa) argued that the bill was pro-monopolistic, since large chemical manufacturers would not be burdened unduly by the expense of testing, whereas small companies would be driven out of business. Eckhardt replied that the bill did not automatically require testing, and that testing requirements would have to be set by rule by EPA. He also noted that even a small chemical company should not have licenses to distribute a hazardously toxic material.

An amendment offered by Congressman John D. Dingell (D-Mich) and approved would ban the manufacture of polychlorinated biphenyls (PCBs), except for closed-system uses, within two years of passage. Eckhardt said that EPA already was moving against PCBs under the Federal Water Pollution Control Act and that he did not favor moving against a specific substance, but Dingell argued the need for imposing a schedule on EPA. By voluntary agreement of industry, PCBs currently are limited to closed-system uses in electrical equipment. PCBs have been shown to cause skin lesions and reproductive failures. They accumulate and are concentrated in the food chain, and some fisheries in the Great Lakes and the Hudson River have been closed as a result.

The House adopted by vote of 210-157 an amendment by Congressman W. Henson Moore (R-La), which would give Congress specific veto power over EPA regulations promulgated under the legislation. Eckhardt's legislative aide said the provision is likely to foster lazy administration and regulation because blame can always be shifted back to Congress. Furthermore, the provision was criticized because Congress already has general authority over regulations; and the provision is seen as useless, except as a possible pretext for a Presidential veto.

An amendment by Murphy increasing authorizations from $11 million to $16 million was approved. Because no appropriations can be included at this date, the bill would not take effect before October 1977 in any case.

Currently Congress is scheduled to adjourn October 2, which leaves little time for a conference. Committee staffs already have met to prepare the groundwork, and conference meetings are not expected to be protracted once they get underway.

Health Hazards

DOW DISCLOSES STUDY RESULTS ON EFFECTS OF HEXACHLOROBUTADIENE

Results of toxicological studies on hexachlorobutadiene (HCBD) at Dow Chemical U.S.A. showed a high dosage caused multiple toxic effects, including kidney cancer in test rats, while lower doses did not.

Details of another study announced at the same time revealed that the same high dose of HCBD had no effect on rat reproduction, Dow said.

The chemical is a major component of the tarry wastes from manufacture of trichloroethylene, perchloroethylene, and carbon tetrachloride. These studies were transmitted to appropriate federal agencies, Dow said.

A Dow representative said the studies underline the recognized need to minimize human exposure to HCBD and the release of it in the environment. Dow also supports the theory of a threshold level, below which exposures to chemicals do no harm.

The data show the highest dosage, which was 20 mg/kg/day, caused substantial injury to the kidneys of rats used in the studies as well as cancer in some kidneys of rats used in the studies. An intermediate dosage of 2 mg/kg/day caused only injury considered to be reversible. A still lower dosage of 0.2 mg/kg/day caused no observed adverse effects, according to Dow.

A review of health data on Dow employees working in areas where HCBD has been found revealed no abnormalities or deaths which could be attributed to the chemical. Dow does not market HCBD; wastes containing HCBD are being recycled or incinerated in specially designed facilities.

Concentrations of HCBD in Dow's commercial products are well below 1 part per million, so low as to preclude the possibility of harm to humans from exposure to HCBD, according to Dow. HCBD is not produced in end uses involving the products under foreseeable operating conditions.

Subsequent Dow environmental research suggests that because of its relatively short lifetime in the environment, accumulation of the compound and widespread environmental contamination by HCBD is not likely.

The two new Dow studies further define effects of HCBD, and they are being submitted for publication. One study deals with rat reproduction, health, and growth. The research data show that there was no effect by the chemical

