5/9/78

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THE WALL STREET JOURNAL, Tuesday, May 9, 1978

Hunting Hazards

Search for Toxic Chemicals in Environment Gets A Slow Start, Is Proving Difficult and Expensive

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WASHINGTON—A high-powered detective is beginning a search for killers and cripplers in one of the biggest *mysteries* of our time. Suspects number in the tens of thousands, and they are everywhere.

The sleuth is Uncle Sam. The targets: toxic chemicals.

Armed with a broad *mandate from Congress*, a number of federal agencies are joining in the hunt for man-made chemicals that can cause cancer or other diseases. The ultimate goal is to recognize cancer-causing substances, or carcinogens, and other dangerous chemicals before they become ensconced in products, workplaces and the environment—and to ferret out more effectively already-existing dangers. By contrast, the government currently reacts to chemical perils mainly on a case-by-case basis in what critics term a "carcinogen of the month" approach. For instance, last year the government moved to restrict worker exposure to benzene, used in making a variety of organic chemicals, only after its production was linked to a leukemia that already may have killed several workers.

"We are no longer satisfied with cleaning up the environment after the damage is done," says Douglas Costle, administrator of the Environmental Protection Agency, which is heading the chemical search. "We need to prevent the introduction of harmful materials into the environment."

Tracking down toxic chemicals, however, is an *enormous—some say impossible—task* that is putting the government at odds with both industry and environmentalists.

Unknown Dangers

The most imposing problem is the fact that nobody precisely knows, with some exceptions, which of the 70,000 commercial chemicals currently in use are dangerous. Equally unknown are the kinds and degrees of the dangers and how many years after exposure the effects become apparent. Moreover, 1,000 new chemicals are flooding the marketplace annually. *Most* chemicals probably are safe enough. But "it just boggles the *mind* to think how little is known," says Carroll Bastion, a toxic-substances expert for the President's Council on Environmental Quality.

What is known is that chemical hazards are *turning up* in a variety of places. Consider some recent cases. Sports fish taken from Lake Ontario and Lake Michigan contain high levels of Mirex, an insecticide that produces cancer and neurological problems. Polychlorinated biphenyls, better known as PCBs and widely used in insulating fluids, have been proved to cause birth defects in monkeys. And drinking-water contaminants, suspected of causing cancer and heart disease, have been found in many parts of the U.S.

Because the chemicals are so pervasive that they defy bureaucratic boundaries, more than a dozen disparate agencies are taking part in the action against "toxics," which are defined as substances that can cause cancer, *mutations*, behavior disorders and other illnesses. For example, the Labor Department's Occupational Safety and Health Administration is involved because "it's almost impossible to talk about an environmental problem that won't *present* a problem for workers," says Eula Bingham, the agency's head. (OSHA has begun a separate program to regulate hundreds of cancer-causing substances at places of work.)

The government's main weapon is the Toxic Substances Control Act, passed in October 1976 after five years of debate and heated opposition from the $113 billion-a-year chemical industry. The law tells the EPA to collect information on suspect chemicals, to require manufacturers to test such chemicals, to regulate or ban chemicals found dangerous and to closely monitor new substances coming on the market.

A Slow Start

The ambitious program has gotten off to a slow start. "The act is so big and complicated, and the EPA has done so little," fumes Jacqueline Warren, an Environmental Defense Fund lawyer.

EPA officials concede the early pace has been sluggish. Last year, an eight-agency advisory committee recommended that four individual chemicals and six groups of chemicals, used in products ranging from paints to perfumes, be tested to check suspicions that they can cause cancer and birth defects. In addition, the agency has moved to restrict the use of PCBs and taken a few other regulatory actions to carry out the law.

But EPA officials argue things are picking up. The agency recently released a second list of four chemicals and four groups of chemicals chosen by the multi-agency committee to be tested for hazards. The EPA also will soon issue its first testing standards, and an inventory of all existing commercial chemicals, delayed about a year, should be finished in 1978. Furthermore, the agency is studying more than 80 reports from industry detailing experiences with potentially toxic chemicals.

At this stage, though, just setting priorities is a key activity—the ominous task of choosing which sorts of suspected poisons will receive first attention. "It gets you into this business of playing God," says Steven Jellinek, an assistant EPA administrator. Decisions will be based on the toxicity of a substance and the amount of human exposure. Substances that may have irreversible, chronic effects will get precedence.

Disputes Are Stirred

The government's assault on toxic substances already is stirring disputes. Some scientists criticize the government's preoccupation with cancer. They note that many kidney, lung and nerve problems also seem related to long-term chemical exposure. But federal officials say the needed corroborating evidence doesn't exist for such problems as it does increasingly for cancer. "Unless somebody decides we should move ahead with fundamental medical research, we can only go so far in the regulatory agencies," says OSHA Administrator Bingham, herself a scientist.

The EPA's effort to inventory commercial chemicals is causing controversy, too. Industry complains that the EPA asked for too much information, a lot of it proprietary. Moreover, companies like Dow Chemical Co. and Union Carbide Corp. say they are spending more than $1 million each on the inventory project. "I just don't think they need to collect as much information as they did in the first go-around," W. W. Corey of Monsanto Co. says. "By the time they get around to using it, they'll be out of date."

Environmentalists, on the other hand, charge that the EPA is bending over backward to satisfy confidentiality demands by companies and hence isn't requesting nearly enough data. They think the list—which requires names of chemicals, places of production and volumes produced—should also include numbers of workers exposed to the chemical and to byproducts of the chemical. Above all, they complain that companies don't have to report how the chemical is used.

"It's going to be hard to identify exposure without knowing what the use information is," the Environmental Defense Fund asserts.

Compiling the list of chemicals is only a first step. Actual testing raises other problems. Some industry officials contend there is a shortage of capacity needed to perform long-term toxicity tests. For example, they say, the testing calls for feeding chemical substances to rats for three years, but only several hundred tests can be done simultaneously because of limited facilities and supplies of animals.

Costly Testing

Moreover, testing is expensive. Partly in anticipation of requirements under the toxic-substances law, private outlays for chemical-testing of all kinds have jumped to more than $1 billion a year from $400 million three years ago. The government estimates that the testing needed just to catch up with untested organic chemicals known to be in the environment would cost $2 billion, plus $300 million annually to keep abreast of new compounds joining them. However, officials add that testing of all chemicals isn't necessary; some chemicals already have been tested for health hazards or closely resemble those that have been, while others aren't even under suspicion.

Another problem is a severe shortage of toxicologists, the scientists who determine health effects of substances by feeding them to rats or using other tests. The Society of Toxicology claims just 800 members, and demand from government and companies trying to comply with government regulations is surging. "We're hiring toxicologists as fast as we can," a Monsanto spokesman says. Dow Chemical has doubled its toxicological facilities over the past five years.

Indeed, the new importance of toxicologists has driven annual salaries as high as $75,000, according to a chemical-industry official. "Toxicologists are the nuclear physicists of our era," observes David Comey, president of the Chicago-based Citizens for a Better Environment.

The EPA will do some testing itself, but critics charge that the agency has failed to create adequate testing facilities and has contracted too much technical work on toxic substances to private companies. Environmentalists also worry that the EPA's regulatory procedures will delay its efforts to carry out the law. J. Clarence Davies of the Conservation Foundation says he doubts that the EPA's elaborate rule-making procedures could allow more than 20 regulations to be issued annually.

EPA officials insist that they can move faster than that, but they concede that the agency initially may have relied too much on outside testing. The agency's own testing capabilities will be beefed up as more money and people are put into the program, they say. The Carter administration budget for the fiscal year starting Oct. 1 proposes to boost spending on the toxic-substances program 63% to $27.2 million, with a 259% rise in employes to 573.

Enforcing any regulations will pose further difficulties. The EPA expects an avalanche of lawsuits once it begins moving against substantial numbers of chemical makers. Moreover, officials worry that it will be difficult to stir public support for strict enforcement because most toxic-substances actions will be based on technical findings.

"It's a very, very hard subject area in that it produces almost no visible results," a White House aide observes. "You can't see the environment becoming less contaminated in the way you can see the air being cleaned up."

And, underlying the whole enterprise is one stark fact: Almost nobody thinks that chemical hazards to health can be entirely eliminated. Organic chemicals—in the form of plastics, clothing and a host of other synthetic products—are simply too pervasive. "We really can't have the ideal of a zero-risk society," maintains Fred Hoerger, a Dow Chemical official.

Mrs. Bastion of the Council on Environmental Quality agrees. "There will never be a way to reduce the hazards of toxic substances to zero," she says, "even if we return to a much simpler society."