



Author

Date APRIL 26, 1976

INTEROFFICE
MEMORANDUM

Subject SHELL'S POSITION ON TOXIC SUBSTANCES
CONTROL LAW

To DISTRIBUTION

From A. J. DIGLIO

(Location, Organization, or Department)

VALLEY FORGE

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Attached for your information is Shell's position on Toxic Substance Legislation. Shell supports House Bill HR-7664 introduced by Congressman McCollister with some modifications.

/mjv
Attachment

A. J. Diglio
A. J. DIGLIO

(320)

AP00036982

Shell agrees Toxic Substances Control law needed— McCollister bill, with changes, supported

Congress is actively considering legislation to deal with a growing alarm over the known and unknown effects of exposure of humans and the environment to a large number of chemicals. It is likely that a Toxic Substances Control law will be enacted early in 1976.

Shell believes in the prevention of undue risk of harm to human health and to the environment and strongly supports the development of appropriate legislation. This legislation, while needed, will be costly to everyone. The general public, chemical industry, downstream consuming industries, government, and labor will all ultimately pay the price.

Therefore, it is imperative that such legislation not impose unnecessary burdens. It should not include provisions beyond those reasonably necessary to prevent undue risks. Currently proposed legislation, Senate Bill S776 and House Bill HR 10318, contains many provisions which are unnecessary and overly burdensome. Adoption of these extraordinary provisions will cause unnecessary unemployment, unnecessary discouragement of innovation and investment, and unnecessary denial of useful and safe products. In addition, less severely regulated foreign industry would be given a competitive edge which would depress our balance of trade payments.

Shell believes that soundly balanced legislation must include the following provisions:

Regulation of only those chemicals found to pose an

unreasonable risk to health or the environment. (There are thousands of chemicals in use today which pose no unreasonable risk. To test, report, and regulate all of these, as possible under S776, is ridiculous. This effort should be concentrated on the real culprits.)

Regulation of only those chemicals not already federally regulated. (There are many laws such as the Occupational Safety and Health Act, the Clean Air and Water Acts, the Consumer Product Safety Act and others that deal with chemical substances. Duplication of overlapping laws does not increase the desired protection. The competition, redundant efforts and confusion of various agencies each assuming responsibility for control would generally dilute the enforcement, increase the costs to do the job, and frustrate industry in its efforts to comply with the law.)

Exclusion of state regulations where the Administrator has ruled on a chemical substance. (Individual state regulation would unnecessarily multiply testing, labelling, record keeping and controls leading to confusion and totally unnecessary costs. This could result in keeping 50 different sets of records, 50 different testing procedures, 50 different labels, etc. The disruptive effect on interstate commerce is difficult to contemplate.)

Exemption from regulation of laboratory and research test chemicals, reagents, mixtures and intermediate chemicals, chemicals manufactured or distributed for further conversion into other chem-

Copies of this article in pamphlet form are available from Shell Chemical Company, Room 1518, One Shell Plaza, Houston, Texas 77002.

icals, except where the Administrator finds that coverage is necessary. (Laboratory and research personnel handle only small quantities of chemicals and are trained in protective measures. Hence, extensive testing and controls for these substances would serve no useful purpose. In the case of mixtures, such as paints, and inks, coverage is unnecessary because the individual chemicals are regulated. Mixtures should be regulated only where the chemicals react in a significant way creating a new chemical substance or exert a synergistic effect where a finding of unreasonable risk can be made. Exposure of humans and the environment to chemical intermediates is already fully controlled by other laws.)

Testing and premarket screening should be required for chemical substances upon a finding, subject to a hearing, that an unreasonable risk may exist. (Hearings help to ensure that all information and views are considered and that costly arbitrary action is made less likely. For example, the heavy costs to the public associated with the now redundant regulations for auto seat belt interlock systems might have been avoided.)

Any regulation affecting production, use or distribution of chemical substances posing an unreasonable risk should be promulgated only after a finding, subject to a hearing, that it is the least restrictive of a graded series of controls needed to protect health or the environment. The administrator should be required to give successive consideration to the following series in increasing order of severity; such as: (a) requiring markings and warnings; (b) performance standards limiting the extent of human exposure from a particular use of usage; (c) performance standards generally limiting the extent of human exposure; (d) limits on manufacture or distribution for a particular use or uses; (e) general limits on manufacture, including quotas and lastly; (f) prohibition of manufacture or distribution. (Control of a particular hazardous use will still allow beneficial uses which would not be the case if control were by quota or banning.)

All hearings should provide for the right of cross examination by all parties. (Provides that all participants have the opportunity to understand or challenge information presented.)

When accelerated remedies are required, as in a case of a finding that imminent hazard may exist, the Administrator should be required to proceed through the courts. (Protects individual rights. Under the current bills the Administrator may proceed arbitrarily without going to the courts.)

In general, any legislation should limit the discretionary powers of the Administrator which could be arbitrarily and unreasonably exercised. (Avoids excessive regulation of private industry.) In general, any legislation should require the Administrator to publish and consider a benefit/risk/economic impact evaluation prior to issuing any regulation.

Shell believes that soundly balanced legislation must not include the following provisions:

The Administrator should not be permitted to establish production quota limitations unless it is first found that less restrictive control measures would be inadequate. (Quota systems are generally difficult to administer equitably.)

The Administrator should not be required to publish a priority list of chemical substances requiring testing. (Publication would amount to precondemnation of chemical substances potentially valuable to the public and would be anticompetitive.)

Interim regulations are unnecessary and should not be permitted unless there is a court finding of imminent hazard. (Leads to arbitrary and unreasonable action.)

The Administrator should be prohibited from arbitrarily establishing excessively broad groups or classes of chemical substances for regulation. (Precludes unwarranted regulation of a safe chemical substance just because it may be in the same broad family with a hazardous one.)

The burden of proving the existence of "unreasonable risk" should rest with the Administrator and not the manufacturer. (Eliminates the legally and scientifically impossible burden of proving that no risk exists.)

Citizen suits should be allowed only against the Administrator and only where it can be shown that he has failed to carry out his non-discretionary duties. (To avoid unnecessary litigation.)

Recommendation

House Bill HR-7664, introduced by Congressman McCollister and supported by the Office of Management and Budget with modifications, comes closest to being appropriate legislation. We support HR-7664 modified in accord with the concepts outlined herein and urge the general support and adoption of such a modified bill. ☐



Author

INTEROFFICE
MEMORANDUM

Date APRIL 19, 1976

Subject MCA -- CHEMECOLOGY

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From A. J. DIGLIO

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Attached for your information is the April 1976 issue of the MCA Chemecology publication.

/mjv
Attachment

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(320)

AP00036985

CHEMTECLOGY

Published by the Manufacturing Chemists Association to promote a clean environment

April 1976

Ease Demands, Water Commission Urges Congress

The National Commission on Water Quality is recommending that Congress make major mid-course adjustments in the Federal Water Pollution Control Act to keep the nation on a realistic course in restoring and maintaining the physical, chemical and biological integrity of the nation's water.

The commission's final report, which

went to Congress in mid-March, urges the legislators to:

- Authorize extensions and waivers of the July 1, 1977 deadline requiring secondary treatment for municipal sewage plants and application of best practicable technology for industry.
- Postpone for five to 10 years the 1983

requirement of best available technology for industrial dischargers, while retaining the 1983 goal of fishable/swimmable waters. The commission recommended, however, that effluent limitations to eliminate the discharge of toxic pollutants in toxic concentrations be implemented as soon as possible.

- Redefine the 1985 goal of zero discharge of pollutants to encourage recycling, reuse, land application and other forms of waste management.

The recommendations were opposed by only one of the 15 commissioners, Sen. Edmund Muskie (D-Me.), who called them a retreat from the effluent limitations of the 1972 amendments to the act and a return to the water quality approach of earlier federal laws.

The commission predicted it will take at least another decade and \$100 billion to reach the standards set for 1977. Afterwards, it recommends making another study to determine what additional action may be necessary.

The commission reported that the water cleanup program nationally is behind the schedule set by Congress because of intricacies of the law, bureaucratic complexities, extensive litigation and the impoundment of federal construction funds.

Even so, the commission said its studies revealed that "in many areas of the country, the water is not only improving but improving faster than anyone had expected." Investment in wastewater control and treatment and the recuperative capacities of streams are combining to create better water quality quickly, the commissioners said, adding: "We are encouraged."

Mini-Monitor Measures VC in Workplace

A small, badge-like pollution monitor, as easy to wear as a piece of costume jewelry, has been invented by a Louisiana State University research team to measure exposure to vinyl chloride, a gas linked with occupational cancer.

The clip-on device, which is about one-quarter inch thick and weighs less than one ounce, will directly benefit workers employed in industrial plants which manufacture vinyl chloride and polyvinyl chloride or use PVC in producing vinyl plastics.

Moreover, the small monitor, the first of its kind ever developed, will require very little modification to monitor other hazardous gas pollutants, reports Dr. Philip W. West, LSU Boyd professor of chemistry and director of the University's Institute for Environmental Studies.

He said the first results of industry field tests of the new device have been "beautiful." Several industries are cooperating in testing the monitor.

The small vinyl chloride monitor can replace existing monitoring devices which require industrial workers to wear, in varying combinations, bulky plastic bags, noisy air pumps and batteries that have to be recharged frequently.

Industrial employees who work around vinyl chloride would turn in their "badge" monitors at the end of each working day for laboratory analysis. Thus, the amount of exposure to the hazardous gas during specified time periods can be accurately gauged before the next working day begins.

If laboratory analysis shows that workers have been exposed to excessive concentrations of vinyl chloride, the situation can be remedied immediately by shifting personnel or modifying plant operations to reduce output of the gas.

Air entering the monitor permeates a plastic membrane, and vinyl chloride in the air sample is captured in an absorbent. In analysis, the air sample materials retained by the plastic membrane are placed into a small heated chamber and the vinyl chloride is "flushed off" into a gas



LSU Coed Susan Wolf demonstrates the new monitor for measuring exposure to VC gas.

chromatograph for accurate measurement. In an alternate technique, the vinyl chloride captured on the membrane is dissolved in a carbon disulfide solution and then injected into the chromatograph.

Toxic Substances Bill Passes Senate

The toxic substances control bill passed by the Senate late last month "will make it more difficult for industry and government to provide additional protection for the public and the environment," according to Richard E. Heckert, a Du Pont Company vice president and chairman of MCA's special committee on toxic substances legislation.

The Senate bill has two major defects, he said. "It calls for broad-scale testing and screening of substances without adequate regard to relative levels of risk. Effective regulation should permit the chemical industry and the Environmental Protection Agency to concentrate on the chemicals most likely to represent a hazard."

The bill's other drawback, Mr. Heckert said, is that it represents overregulation. "There are already many laws which deal with employee and public health and safety," he pointed out.

Mr. Heckert emphasized that the chemical industry supports effective toxic substances legislation and endorses HR 7664, one of the bills currently pending before the House Interstate and Foreign Commerce Committee.

However, a spokesman for the House committee indicated that a more stringent measure, HR 10318, sponsored by Representative Bob Eckhardt (D-Tex.), remains the central bill on which markup is expected to begin in the near future.

AP00036986

First CIIT Studies: Ethylene, Toluene

The first two research projects of the new Chemical Industry Institute of Toxicology are long-term inhalation studies of ethylene and toluene in rats. They will be conducted by Industrial Bio-Test Laboratories, Inc. at Decatur, Ill.

Dr. Leon Golberg, the institute's president, said "we chose ethylene and toluene for our first projects because they are two of the most widely used chemicals. They form the basis for a great variety of industrial and consumer products and, while we have extensive data on them, there are gaps in our knowledge which should be filled in."

The Chemical Industry Institute of Toxicology was formed last May by 11 chemical companies to test large-volume chemicals for toxicity, particularly the possible effects of long-term, low-level exposure. There are now 18 members, and headquarters have been established at Research Triangle Park, Raleigh-Durham, N.C.

In addition to the first two research projects, Dr. Golberg said the institute's scientific advisory panel is considering studies on aniline, chlorine, dinitrotoluene, ethylene oxide, formaldehyde, n-hexane, maleic anhydride, methylene dichloride and phenol.

Air Is Cleaner, but Not Free

The President's Council on Environmental Quality has just revised upward its estimate of the cost of implementing federal pollution control laws over the next decade. The new figure—\$217.7 billion—will cost each American an average of \$98 annually. The estimate, CEQ says, is \$22.9 billion higher than last year's figure, largely because of inflation.

CEQ, claims, however, that citizens are beginning to get what they're paying for—a cleaner environment.

"By most conventional methods of measurement, air quality in the United States has greatly improved during the five years since passage of the Clean Air Act Amendments,"

CEQ says in its latest annual report.

The council also found "that our efforts to restore and protect our nation's waters have made some encouraging progress. The water quality indicators, trend analyses and studies all show that many of the worst point sources of pollution are being effectively controlled and that some of our most heavily polluted waterways are being cleaned up."

Regarding air quality, CEQ says that over the past five years concentrations of "particulate matter measured in the atmosphere declined an average of 14 percent and average sulfur dioxide concentrations declined about 25 percent. Many urban locations show improvement in ambient levels of carbon monoxide and photochemical oxidants."

CEQ's conclusions on water quality are based on the 1974 National Water Quality Inventory, and on the results of observations conducted at 87 monitoring stations operated by the U.S. Geological Survey's National Stream Quality Accounting Network (NASQAN) which show "a reduction in the composite frequency of violations—an improving trend."

"The proportions of NASQAN stations in the good or fair categories increased from 61 to 77 percent between 1961 and 1974," the report found. It notes that "the proportion of stations in the very poor and severe categories dropped from 18 percent to three percent over these years. No stations were in the severe category in 1974."

NASQAN measurements also showed improvements in drinking water suitability.

Despite the progress, the council says, substantial problems remain. According to the report:

- "Undesirably high levels of the major air pollutants continue to occur at many locations. Only about one-third of the nation's 247 air quality control regions are fully meeting the health protection ambient standards for all pollutants at present."

- "Evaluations of water quality clearly indicate that nutrients, trace metals and land runoff are going to present difficult and persistent challenges."

- "Most lakes studied in the Eastern states are suffering some degree of accelerated eutrophication primarily attributed to the nutrients, often phosphorous, that drain from agricultural and urban land, although industrial effluents and municipal sewage treatment plants also contribute."

Pollution Control Cost \$32 Billion in 1973

Spending for pollution control by U.S. consumers, business and government totaled \$32 billion in 1973, according to latest figures from the Department of Commerce. This is an 18 percent increase over 1972.

Business accounted for \$13.2 billion with nearly half of the total going to combat water pollution. Ninety-four percent of anti-pollution spending was for goods and services to reduce emissions, while the remaining amount went for regulation, monitoring, research and development.

Further information is in the February issue of *Survey of Current Business*, available for an annual subscription rate of \$48.30 from the Government Printing Office, Washington, D.C. 20402.

NRC Wants Ideas on Pollutant Studies

Public suggestions on selecting the best methods for studying potential pollutants are being sought by a National Research Council committee in conjunction with a study for the Environmental Protection Agency.

The agency has asked the committee to study two specific pollutants and develop recommendations on how such studies should be structured and conducted to obtain the best available scientific and technical information.

Some of the issues the committee will consider include:

- What methods of retrieval and analysis of information are most likely to assure that

the information and conclusions used by EPA are scientifically reliable?

- What analytical approaches to issues, such as assessment of carcinogenic risk, extrapolation of health risk to low-dose levels in the environment and cost/benefit assessment, can provide information in a form most useful for the decisions EPA may have to make? and

- What degree of policy analysis should be performed in a scientific and technical evaluation of information (or lack thereof) and how should it be presented to decision makers?

Panels are being organized currently to study nitrates and halogenated methanes (excluding fluorinated compounds), the two pollutants specified by EPA. The panels' reports will serve as case studies in methodology and will be used by EPA in preparing for possible regulatory action. The committee also will review past pollutant reports for methodology in preparing its final recommendations.

Anyone interested in commenting on the committee's study should submit written statements by April 9 to Charles R. Malone, Coordinating Committee on Scientific and Technical Assessments of Environmental Pollutants, National Research Council, 2101 Constitution Ave., N.W., Washington, D.C. 20418.

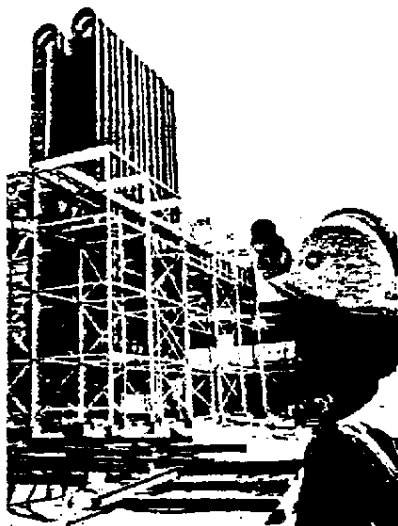
Mayo Shifts to EPA Lab, Alexander Heads Region 5

Francis T. Mayo, former administrator of the Environmental Protection Agency's region five, has been appointed director of EPA's Municipal Environmental Research Laboratory in Cincinnati, Ohio.

Mr. Mayo's former position will be assumed by George R. Alexander Jr., who is currently deputy director of regional and intergovernmental operations in EPA's Washington headquarters.

AP00036987

MCA Releases Fluorocarbon Data On Global Production, Sale, Use



A seven-story environmental 'radiator' is being built by Northwest Alloys, Inc., a subsidiary of Alcoa, at a new magnesium and silicon plant in Addy, Wash. The tubes are giant air-to-air heat exchangers which cool furnace gases before they reach contaminant-trapping filter bags. Nearly 250,000 cubic feet of fumes are cleaned each minute.

World-wide figures on the production, sale and use of chlorofluorocarbons (commonly fluorocarbons) have been released by the Manufacturing Chemists Association in an effort to resolve uncertainties, caused by lack of accurate data, in scientists' earlier calculations of their possible effect on the ozone layer.

Total world production from the date of first manufacture through 1975 has been 7,582 million pounds of FC-11 (trichlorofluoromethane), 11,197 million pounds of FC-12 (dichlorodifluoromethane) and 1,670 million pounds of FC-22 (chlorodifluoromethane).

Production through 1973 was higher than the previous estimates used for modeling calculations by 9.2 percent for FC-11 and 10.0 percent for FC-12. The rate of growth between 1967 and 1973 averaged 13.3 percent per year for FC-11 and 9.5 percent per year for FC-12 compared with previous estimates of 14.4 and 13.0 percent per year respectively.

However, production of both compounds only increased by about five percent in 1974 over 1973 and decreased by approximately 15 percent in 1975 from 1974.

A fluorocarbon research program designed to contribute to scientific understanding of the effects, if any, of fluorocarbons on the depletion of ozone is being administered by MCA.

Twenty manufacturers throughout the world, representing more than 99 percent of free world production and more than 95 percent of total world production, support the research program and supplied the production and sales data to Alexander Grant & Company, an independent accounting firm.

Sales by major use categories for the past 20 years also were supplied to permit a calculation of the timing and quantities of fluorocarbons released to the atmosphere.

Production data were obtained from several other small producers and the production of all the remaining producers in the world was estimated. All production data excludes those fluorocarbons used as intermediates in the manufacture of other chemicals or plastics.

Copies of the report by Alexander Grant & Company are available to atmospheric scientists from MCA, 1825 Connecticut Ave., N.W., Washington, D.C. 20009.

Lifestyle Is Most Prevalent Cause of Cancer, Expert Says

Although some chemicals can cause cancer, a prominent research scientist says a person is much more likely to contract the disease through the lifestyle he chooses.

Dr. John Weisburger, of the Naylor Dana Institute in New York, says the increase in lung cancer since the 1930s "is not due to air pollution or exposure to chemicals, but to cigarette smoking."

Other personal habits that can cause cancer, Dr. Weisburger says, include unbalanced diets, excessive exposure to sun and improper personal hygiene.

The cancer expert analyzed the causes of the nation's number two health problem (behind heart disease) at a seminar in Atlanta on chemicals and cancer. It was sponsored by the Synthetic Organic Chemical Manufacturers Association.

Regarding cancer contracted from exposure to agents in the workplace, he estimated that there may be as many as 5,000 cases annually and said they are a small percentage of the 900,000 cases diagnosed each year from all causes.

Another seminar participant, Dr. Gary Flamm of the National Cancer Institute, stressed the need to identify the risks from exposure to chemical carcinogens. "Where such carcinogens cannot be eliminated," he said, "we must have accurate informa-

tion to determine exposure levels threatening to human health."

Without such information, he said, society and government might spend billions of dollars trying to eliminate a given carcinogen which might be extremely small—less significant than "a lifetime exposure to one-tenth of one puff from a cigarette."

Society must decide how many man-made substances it's willing to give up which cannot pass this test, the NCI spokesman said. He speculated that most

people are unprepared to replace all items in their homes made from polyvinyl chloride, even though the "one-hit" hypothesis may imply some degree of risk of contracting cancer.

One thing seems certain, Dr. Flamm said, "complete and total safety can't be guaranteed. As desirable as this goal may be, it will elude us even as we develop the ability for assessing the acceptable levels of risk, equal to no more than one-tenth of one puff of a cigarette."

Chemical Is Possible Cancer Preventative

A chemical relative of vitamin A has been reported as a possible cancer preventative by Dr. Michael B. Sporn of the National Cancer Institute.

"Chemoprevention" is seen by Dr. Sporn as an alternative approach to conventional treatment which stresses therapy after cancer has appeared. He emphasized that the material has no effect on persons who have already contracted the disease.

The synthetic vitamin, less toxic than the natural substance, could be used on populations with a higher-than-average incidence of cancer, such as cigarette smokers and certain industrial workers in high-risk exposures.

In NCI's most dramatic experiment, two groups of rats were exposed to a cancer-causing agent. One half was fed daily doses of the new synthetic vitamin. In this group, only 22 percent developed cancers as compared to 48 percent in the controls.

"We must begin to think about cancer as a disease that begins many years before we record it," Dr. Sporn says. Arresting the development of the disease in its earliest stages would take advantage of the long lead time—often 20 years—before cancer reaches the life-threatening stage.

Such an approach, he said, will be necessary since it will be virtually impossible to eliminate all carcinogens.

AP00036988

PCBs Yield to Good Vibes, Bugs

Discovery of a scientific technique for rendering polychlorinated biphenyls virtually harmless also may help answer environmental problems related to a whole range of other persistent toxic chemicals.

Dr. Dickson Liu, a research scientist at the Canada Centre for Inland Waters in Burlington, Ontario, is responsible for the breakthrough. It involves a newly-developed strain of bacteria and a special technique for providing them access to the hitherto almost indestructible compound.

PCBs are highly valued as electrical insulating fluids because of their resistance to fire. The compound has become an environmental health problem, however, because it degrades extremely slowly.

The oily PCB material is highly insoluble in water. Thus, its carbon content remained largely inaccessible as a food source for bacteria. Dr. Liu reasoned that the solution might be found through increasing the PCB-to-water interface. Ultrasonic vibration was used to disperse the PCBs into very fine particles, and a common pulp-mill effluent was then added to maintain an

emulsified suspension of the chemical.

This technique provided the opportunity to introduce bacteria, obtained from sewage sludge, which feed on the dispersed PCBs. A highly-acclimated strain of bacteria is so effective that even the most chlorinated and stubborn members of the PCB family, such as aroclor 1254, are reduced in one week from concentrations of 300,000 parts per billion to 19 ppb, Dr. Dickson claims.

The value of the discovery is seen in treatment of PCB-rich industrial wastes and in disposing of such things as transformers which contain the chemical. The new technique may not answer the problem of PCBs already in the environment nor be applicable to diffuse sources in which the pollutant already has been mixed with other effluents.

Still in the developmental stage, a pilot plant is being planned at the Canada Centre for Inland Waters. Dr. Liu also is commencing experiments with the new bacteria on pesticides such as lindane and chlordane.



Dr. Liu treats PCB with high-frequency sound waves in a sonic dismembrator.

'Quick, Dr. Watson, the Laser!'

A way to "fingerprint" spilled pollutants with a laser beam and trace them to their sources has been developed by chemists at the University of Rhode Island.

The laser technique has already proven effective in fingerprinting some 25 contaminants, the URI chemists have found. They hope to perfect the technique and provide the first method capable of identifying most of the hundreds of waterborne substances classified as hazardous by the Environmental Protection Agency and the U.S. Coast Guard.

As part of the same study, the URI team has monitored Narragansett Bay and the Sakonnet River and found a variety of toxic chemicals including chlorinated hydrocarbons, petroleum hydrocarbons and tar flakes.

One of the big advantages of the experimental laser system, project director Dr. Christopher Brown explained, is that it could be easily adapted to remote sensing of harbor pollution from a buoy, or it could be installed as an on-board system that could continuously monitor harbor pollution from a steaming patrol craft.

Toxic chemicals can be analyzed quickly in the water sample simply by beaming the laser into the water. No two contaminants are believed to scatter the laser light in the same way, so the light reflected is analyzed for the unique "fingerprint" which instruments monitor and record.

Dr. Brown says the laser should be effective up to 100 feet away from the sample, making possible a system which could,

from a ship, continuously monitor adjacent waters.

The chemical detectives already have used the laser to fingerprint 20 hazardous materials down to a level as low as five parts per million. With a more sophisticated computer system, Dr. Brown said, it will be much more sensitive.

Inorganic water pollutants analyzed include phosphates, nitrates and sulfates, as well as carbon disulfide, hydrocarbons and chemical dyes. The system does not work as well on organic oils, but Dr. Brown said an earlier fingerprinting system URI devised, which uses infrared spectroscopy, is an effective way to analyze for oil.

Dr. Brown estimates that an effective laser system could be purchased and set up for under \$25,000.

Ottawa Implementing Contaminants Act

Canada's Ottawa province is gradually implementing the Environmental Contaminants Act requiring plants to give full details on all chemicals used in processing or released to the environment.

Passed last December, the law authorizes the federal government to demand a full disclosure, order removal of materials judged harmful and to set penalties up to \$100,000 and two years imprisonment.

One important feature is the law's power to impose restrictions on new chemicals in classes previously judged to be dangerous.

Hazardous Chemicals Labeling Standard Prepared by MCA

A new standard for the labeling of hazardous industrial chemicals has been approved by the American National Standards Institute. The standard, Z129.1, was prepared by the Manufacturing Chemists Association's Labels and Precautionary Information Committee.

It was adopted in keeping with ANSI's rigorous review procedures to insure that it is in the public interest.

According to ANSI, there has been a need for a national and international standard in the area covered by Z129.1, and the new standard represents a significant contribution toward the continuing improvement in safe handling of hazardous industrial chemicals.

The development and introduction of new chemicals and chemical processes into ever-widening fields have produced a need to furnish information for the guidance of workers who use, handle or store hazardous industrial chemicals, ANSI says.

The Labels and Precautionary Information Committee of MCA is a group of chemical industry specialists in precautionary labeling, backed up by research and development personnel with knowledge of the physical and chemical properties of industrial chemicals.

Copies of standard Z129.1 may be ordered from: American National Standards Institute, Attention: Sales Department, 1430 Broadway, New York, N.Y. 10018.

Library

THE ENVIRONMENT: COSTS, CONFLICTS, ACTION

Proceedings from a conference to acquaint news media with the complexities of environmental issues, contains exhibits from conservationists, industrialists, academicians and newsmen. A copy is \$14.75 from Marce Gerken, Inc., Madison Ave., New York, N.Y. 10016.

ENVIRONMENTAL QUALITY AND SAFETY

A series of papers and essays by international scientists deals with the good effects of chemistry, toxicology and technology with emphasis on the safety of chemical drugs and physical agents on a life. A copy is \$19.50 from Academic Press Inc., Publishers, 111 Fifth Ave., New York, N.Y. 10003.

ENCYCLOPEDIA OF ENVIRONMENTAL SCIENCE AND ENGINEERING, VOL. I, II

The books bring together authorities such as the Environmental Protection Agency, Esso Research, Bell Laboratories and Rand Corporation as references on basic environmental science and technology. The series is \$120, Vol. I is \$72 and Vol. II, \$62, from Gordon and Breach, 1 Park Ave., New York, N.Y. 10016.

INDUSTRIAL NOISE CONTROL MANUAL

Thirty case histories from chemical, product packaging, plastic and textile industries describe the problems, analysis, methods and eventual solutions to particular noise problems. Fundamentals of sound control are discussed, plus how to select a noise control consultant. Reference books are listed. A copy is \$3.25 from U.S. Dept. of Health, Education, and Welfare, National Institute for Occupational Safety and Health, Cincinnati, Ohio 45202.

LAND TREATMENT AND DISPOSAL OF MUNICIPAL AND INDUSTRIAL WASTEWATER

The book covers engineering methods and design, feasibility, consequences, economics and environmental policies and assists in making preliminary cost estimates for a waste treatment project. Use of wastewater nutrients for land enrichment and tertiary treatment through land disposal are considered. A copy is \$20 from Ann Arbor Science Publishers, Inc., P.O. Box 1425, Ann Arbor, Michigan 48106.

INDUSTRIAL TOXICOLOGY

Two professors from Harvard University have designed this book to stimulate interest in occupational medicine careers. The text covers health aspects of plastics, pesticides, radiant energy, mineral dust and some biological hazards. A copy is \$25 from Publishing Sciences Group, Inc., 152 Great Road, Acton, Mass. 01720.

AT ISSUE: THE BEVERAGE CONTAINER

Kaiser Aluminum & Chemical Corporation offers some alternatives to container legislation: improvement in product design and manufacturing technology to lessen material usage, more consumer recycling and a nationwide commitment to resource recovery. Written for non-technical readers, the booklet is intended as a background on a controversial issue. It is free from Kaiser Aluminum & Chemical Corporation, 300 Lakeside Drive, Oakland, Calif. 94643.

CARBON MONOXIDE

Distributed by the Occupational Safety and Health Administration as a precautionary pamphlet on the hazards of and protective measures for CO, OSHA 2224 is free from the U.S. Dept. of Labor, OSHA, 200 Constitution Ave., N.W., Washington, D.C. 20010.

INDUSTRIAL HEALTH HAZARDS DUE TO ATMOSPHERIC FACTORS

This report contains abstracts of research on industrial medicine, occupational diseases and the toxicological factors of various pollutants. The bibliography is \$25 from the National Technical Information Service, 5285 Port Royal Rd., Springfield, Va. 22161.

New Emphasis on Health Regs Predicted by OSHA Director

The chemical industry can expect closer scrutiny in the future from the Occupational Safety and Health Administration as the agency begins to focus more attention on health hazards in the workplace.

That message from Dr. Morton Corn, OSHA's head, came during a recent industry-government luncheon sponsored by the Manufacturing Chemists Association.

The shift toward occupational health will not diminish OSHA's safety efforts, Dr. Corn said, but is designed to "reach some parity" in the two areas. In 1974, for example, less than 10 percent of the agency's plant inspections were for health matters.

To help remedy the situation, he said all new compliance officers hired during the next two years will be health inspectors.

Dr. Corn noted that OSHA's change in direction calls for major new components within the agency. A technical support arm will be created, he said, to perform much expanded analytical laboratory functions relating to engineering controls and abatement periods.



Dr. Morton Corn

A toxicology referral center also will be set up, according to OSHA's chief, to help compliance officers evaluate chemicals encountered during their inspections.

For the immediate future, Dr. Corn said his agency will change its past practice of concentrating plant inspections in industries with the highest incidence rates.

Occupational diseases have not been factored into the priority scale for scheduling inspections, he said, because incidence rates are not known.

From now on, however, the agency plans to recognize the classic, well-known hazards caused by chemical and physical agents as a first step in its new drive for health protection in the workplace.

Dr. Salk's Rx for Worry

Dr. Jonas Salk, developer of the Salk polio vaccine, has a new prescription for people worried about cancer-causing substances in the marketplace that are increasingly being reported by news media.

"The best thing to do," says Dr. Salk, "is quit reading the newspapers."

There is so much sensationalism about such substances, he says, that the government sometimes errs in interpreting laboratory tests that too often have not involved humans.

OSHA Denies Firestone's Request on VC

The Occupational Safety and Health Administration has denied the request of Firestone Plastics Company, Pottstown, Pa., for an exception to the April 1 deadline requiring workers exposed to vinyl chloride to wear respirators under certain conditions.

Firestone sought to extend the deadline until September 30.

Under OSHA's vinyl chloride standard, effective this April 1, employees are required to wear respirators in areas where

vinyl chloride concentrations are greater than one part per million parts of air.

The vinyl chloride standard was issued in 1974, but was held up by court action and did not become effective until last April 1. It granted a one-year delay in mandatory wear of respirators to permit worker training and indoctrination in their use.

During the delay, workers could choose to work without respirators in VC concentrations no greater than 25 ppm.

In seeking a temporary variance, Firestone said that respirators will not be needed after September 30. Until then, however, the company said some production work could not be done while workers are wearing respirators.

In denying the delay, OSHA pointed out that temporary variances can be authorized only if materials or personnel needed to comply with the standard are unavailable.

OSHA said the request for more time to permit completion of engineering methods to control vinyl chloride emissions is not consistent with the intent of the original year's delay in mandatory wear of respirators.

EPA Extends Ban On Mercury Pesticides

Responding to petitions from several manufacturers, the Environmental Protection Agency has postponed until June 30 its ban on the production of most mercury pesticides. Since the pesticides pose no imminent hazard, the producers say, they requested a delay until federal courts can rule on several lawsuits challenging the cancellation.

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Rainmaker Studies Role Of Pollutants

An experimental device that makes "rain" to order is being used at Oak Ridge National Laboratory to study the effects of sulfur and other atmospheric pollutants on vegetation and solids.

ORNL, one of the nation's largest research laboratories, is operated by Union Carbide Corporation's Nuclear Division for the Energy Research and Development Administration.

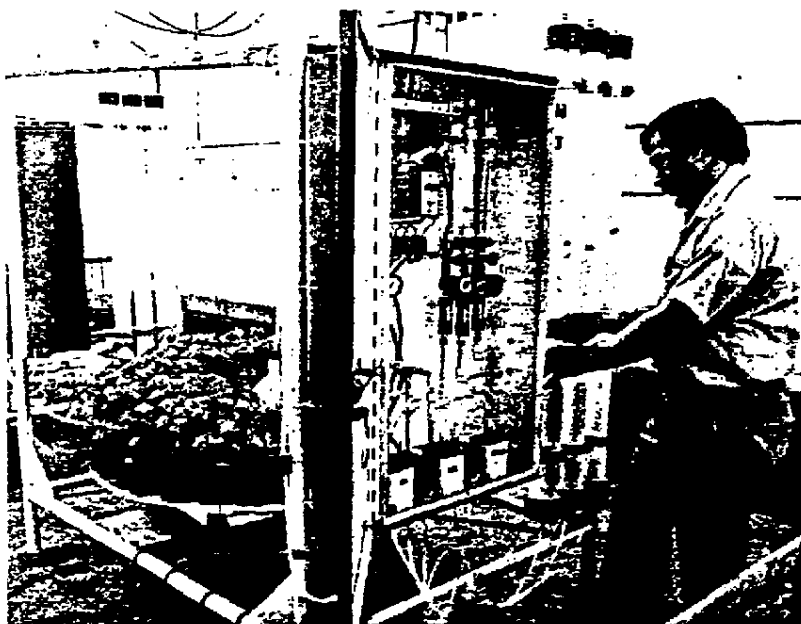
Designed by ORNL scientist David Shriner, the fully automatic "rainmaker" can be programmed to control the size of rain drops, the intensity with which they fall and their chemical composition. The system has been installed in a controlled-environment greenhouse, and can operate unattended for one week.

The acidity of precipitation is receiving world-wide attention because of the increase in sulfur and nitrogen oxides released to the atmosphere from coal-fired power plants and industrial emissions. Washing out in rainfall, these contaminants become incorporated in the hydrologic cycle.

Ordinary rain is somewhat acidic, with a pH of about 5.7. This compares to a neutral value of 7 on the scale used to measure varying degrees of acidity or alkalinity. ORNL says that any lower pH value in precipitation is caused by some chemical in the atmosphere, such as sulfur or nitrogen oxides.

Data collected from the Walker Branch Watershed, a 25-acre experimental site at Oak Ridge, indicate that sulfur levels in rainfall account for 86 percent of the total sulfur input to the watershed. The acidity of individual rainstorms monitored at Walker Branch has been as low as pH 3.25. The yearly average rain acidity measured at the watershed is pH 4.2.

The rainmaking device permits the duplication of rain intensity and droplet size with variations typical of natural precipitation. It



The rainmaker, scientist David Shriner, prepares an acid rainfall for kidney bean plants.

can provide a shower or a storm of any desired duration.

Metering pumps supply controlled concentrations of chemical elements to purified water used to stimulate acid rainfall. An identical system is operated as a control, and is programmed to produce unpolluted rainfall.

Preliminary studies indicate that simulated acid rain may significantly affect the physiological processes of plants. The weathering of protective surface waxes on both forest and agricultural plant species was found to be accelerated when they were exposed to acid rain. This could result in increased leaching of nutrients from the leaves of the plants.

The study also shows that simulated acid rain inhibits nodule formation on root systems of leguminous crops and causes some plants to be more susceptible to disease.

Future studies will focus on conse-

quences of prolonged exposure of natural ecosystems to acid rain and will guide decisions on whether new environmental standards are needed.

NIOSH Suggests Limits For Five Chemicals

Recommendations for limiting occupational exposure to nitric acid, hydrogen fluoride, isopropyl alcohol, ethylene dichloride and methylene chloride have been forwarded to the Department of Labor by the National Institute for Occupational Safety and Health.

The criteria documents suggest nitric acid and hydrogen fluoride retain the established standards: five milligrams per cubic meter on a time-weighted average (TWA) for nitric acid on a 10-hour day or 40-hour workweek, and three parts per million (TWA) for HF. However, NIOSH recommends a change in the ceiling concentration for hydrogen fluoride to six ppm in a 15-minute sampling period.

Isopropyl alcohol should be limited to 400 ppm TWA and 800 ppm as a ceiling concentration for a 10-hour day/40-hour workweek, NIOSH says. Peak exposures for ethylene dichloride should be set at 15 ppm in 15 minutes with 5 ppm (20mg/cubic meter) TWA. Methylene chloride recommendations allow no exposure in excess of 75 ppm for a 10-hour day/40-hour workweek and peak concentrations not in excess of 500 ppm (1,740 mg/cubic meter of air) for 15 minutes.

EPA/New Jersey Clash Over Air Quality Regs.

The Environmental Protection Agency has come down hard on New Jersey's recent decision to authorize 10 companies to burn fuel with a higher sulfur content.

EPA regional administrator, Eric B. Outwater, said that the state's decision was made without the necessary approval by EPA and that the 10 companies could be in violation of the Clean Air Act.

The intended relaxation would have allowed the burning of the cheaper, more available fuel which N.J.'s Department of

Environmental Protection says would provide economic relief to the companies and lower utility rates to power company customers.

Mr. Outwater said that a study of air quality in N.J. has been undertaken that will provide a sound, technical basis for any changes on the sulfur-in-fuel requirements. "It may very well be that the study will provide sufficient data to support any N.J. request for lowering of standards." Meanwhile, he said, the action is "premature."

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One Plant's Waste Is Another's Product

The idea of an industrial waste exchange seems to be catching on in several different areas.

In the United States, Iowa State University has an Industrial Waste Information Exchange, while in Canada, an industry-oriented magazine has set up an informal waste exchange.

Meanwhile, the St. Louis Industrial Waste Exchange established several months ago has issued its first listing. Forty-three available wastes include thermoplastic resins and spent nitric acid containing copper and nickel. Eight items are wanted, including spent nickel catalyst and liquid caustic soda.

The exchange, run by the St. Louis Regional Commerce and Growth Association, will publish listings quarterly. Participation is open to industries throughout North America.

Similar in philosophy, the two newest exchanges accomplish their purpose in slightly different ways. The Iowa clearing-

house offers detailed information on waste products by listing the type of material, a description/analysis, the available quantity per week or month, the form (packaged, liquid) and the materials' general location.

All listings are confidential and are listed free for one year. Responses are forwarded to concerned firms for action. Participants' only obligation to the exchange is to let them know when the material can be removed from the listing.

The Canadian magazine advertises that firms having waste products, or in need of materials formerly regarded as wastes, should contact the editor who will act as their confidential agent by running an anonymous entry in his magazine.

For further information, contact Iowa Industrial Waste Information Exchange, CIRAS, Bldg. E, Iowa State University, Ames, Iowa 50011, or Thomas E. Buck, editor, Canadian Chemical Processing, 1450 Don Mills Road, Don Mills, Ontario, Canada M3B 2X7.

Goodyear Grants Fund Erosion Control Studies

Grants of \$2,500 each from The Goodyear Tire & Rubber Company have been made to the Universities of Rhode Island, Michigan and North Carolina State to evaluate scrap tires as erosion control devices.

The Universities of Rhode Island and Michigan will continue full-scale testing of Goodyear-designed tire barriers to control shore erosion from storm waves along the shores of Narragansett and Chesapeake Bays and Lake Michigan.

North Carolina State University will investigate tires as sand dune and marshland protective structures. The university has successfully used a tire mat to shield a coastal marshland area from wave erosion.

The program is part of a major Goodyear effort—including sunken artificial reefs, highway crash barriers and recycling of old tires—to reuse the 165 million tires scrapped by American motorists each year.

Universities Study Unique Uses for Industrial Wastes

Certain industrial wastes are being packed off to school to see if they can acquire any redeeming social values. For example:

The University of Illinois has been awarded a research grant for \$22,000 by Pfizer Inc. to uncover potential agricultural or commercial uses for iron oxide wastes from the company's pigments plant in East St. Louis, Ill.

Dr. Carl S. Larson, assistant dean of the College of Engineering, is coordinator of the project aimed at recycling what may prove to be a valuable natural resource.

The effluent is a by-product of iron oxide pigments manufactured for the paint, coatings, magnetics and electronics industries. Generated at a rate of about 200,000 pounds per day, the sludge is currently disposed of as landfill.

Possible uses the university sees for the waste: a fertilizer or conditioner for iron-deficient soils, a ceramic refractory cement and a strengthening agent for pressed-board construction material.

In a similar project, the feasibility of recycling certain industrial wastes into cement substitutes is being studied at Carnegie-Mellon University under a National Science Foundation grant.

Edward M. Krokosky, professor of civil engineering at CMU, said wastes being tested include red mud from bauxite refining, fly ash, blast-furnace slag, open-hearth slag, waste sludge from paper making and lime from calcine scrubbers.

A recent progress report stated that combinations of red mud and high-calcium



Pfizer's Wayne McCoy (top right) explains iron oxide process to University of Illinois professors, who will try to find useful, commercial purposes for the wastes now being landfilled.

fly ash and combinations of blast-furnace slag and high-calcium fly ash seemed promising. The wastes were mixed to conform with Type I Portland cement specifications.

Mr. Krokosky said an important feature is

that very much less energy is consumed producing the material from wastes than if the original raw material were used.

The potential also exists, he said, for using such wastes as the starting material for an inexpensive fireproof insulation.

Product Responsibility a 'Must' For Industry: Du Pont's Bours

Industry must take affirmative action to ensure that its products can be made and used safely and without damage to the environment or government will restrain manufacturers with a ring of controls, Du Pont Company Vice President William A. Bours predicts.

Environmental Events

Environmental Law Short Course, April 19-23, Washington, D.C. Contact the director of continuing engineering education, George Washington University, Washington, D.C. 20052.

Environmental Symposium on Air and Water Pollution, April 27, Indianapolis, Ind. Contact L. M. Lotzok, Detroit Diesel Allison Div., P.O. Box 894-P-11, Indianapolis, Ind. 46206.

Water Technology Seminar, May 3-5, San Juan, Puerto Rico. Contact Wm. E. Bell, NUS Corp., 1910 Cochran Rd., Pittsburgh, Pa. 15220.

Offshore Technology Conference and Exhibition, May 3-6, Houston, Tex. Contact Sherry Anderson, OTC, 6200 N. Central Expwy., Dallas, Tex. 75206.

Nonbiological Transport and Transformation of Pollutants on Land and in Water, May 11-13, Gaithersburg, Md. Contact Dr. L. H. Gervantman, A-525 Administration Bldg., National Bureau of Standards, Washington, D.C. 20234.

Fugitive Emissions: Measurement and Control, May 17-19, Hartford, Conn. Contact Elizabeth M. Helmig, program manager, TRC—The Research Corp. of New England, 125 Silas Deane Hwy., Wethersfield, Conn. 06109.

Industrial and Municipal Wastewater Treatment: Process Design and Operation, May 17-21, Clemson, S.C. Contact Professor T. M. Keinath, dept. of environmental systems engineering, Clemson Univ., Clemson, S.C. 29631.

Forum on Ozone Disinfection, June 2-4, Chicago, Ill. Contact Edward G. Footman, IIT Research Institute, 10 W. 35th St., Chicago, Ill. 60618.

Legal Implications of Existing and Proposed Water Quality Control Legislation, June 8-10, Washington, D.C. Contact Professor W. Wesley Eckenfelder, Jr., Vanderbilt University, Box 6222, Sta. B, Nashville, Tenn. 37235.

Addressing a meeting of the National Paint and Coatings Association, he said it is "the moral and ethical obligation of manufacturers to provide quality products at fair prices that can be made, transported, stored, used and disposed of safely.

"This responsibility is imposed at all levels of the manufacturing and marketing chain, from the raw material supplier to the ultimate customer.



W. A. Bours

Its objective is to provide the optimum measure of protection for the public health and safety and for the environment."

He said management must address itself vigorously and uncompromisingly to the affirmative concept of product responsibility—taking positive steps to prevent injury or pollution. This is the foremost moral, ethical and social responsibility of industry, he said.

The key issues in product responsibility are not the laws or the technical problems, Mr. Bours said, but the integrity and courage of the people who run industrial organizations.

"By integrity," the Du Pont executive said, "I mean a firm pledge that we will not make or sell any substance, or use any production process, unless this can be done safely.

"By courage, I mean nothing less than a policy that we will immediately make known to employees, customers, shippers or others who may be affected any new, pertinent, factual information indicating potential dangers not already well understood."

Economy/Ecology Balance Necessary, States NPA

In a recent policy statement, the National Planning Association says that "much of the advocacy for environmental regulation has been singleminded and has not taken into account the possible deleterious effects on the economy of remedial action."

The NPA points out that altering man's activities can lead to "serious dislocation in the areas of capital resources, non-utilization of worker skills and new geographic distribution of industry.

"Many ecologists whose creed is the interdependence of all living things do not seem to realize that the same interdependence exists between man and his artifacts whether technological, social, cultural or aesthetic."

The association allows that man's impact on the environment has reached a level where serious damage will be done if some controls are not instigated, but contends that the relative importance of the particular environmental problem must be balanced against "protecting" the individuals whose livelihood depends on the offending operation."

MCA: What It Is

Manufacturing Chemists Association is a non-profit trade association of United States and Canadian company members representing more than 90% of the production capacity of basic industrial chemicals within these countries. MCA is engaged in basic activities pertinent to the chemical industry, including many related to environmental health. Activities are handled by MCA's staff and by committees composed of industry specialists who serve without compensation from the Association. MCA offices are at 1825 Connecticut Avenue, N.W., Washington, D.C. 20009.

EDITOR: James P. Turner

TECHNICAL ADVISORS: J. F. Byrd, J. T. Garrett and L. W. Rooney, from MCA's Water Resources Committee; S. S. Faust, Jr., from the Air Quality Committee, and R. J. Brenner, R. S. Detrick and W. A. Peterson from the Solid Wastes Management Committee. From the MCA Environmental Quality and Engineering staff, A. C. Clark, C. A. Gosline, M. Preteid, G. W. Ingle, K. D. Johnson, and J. C. Van Horn.

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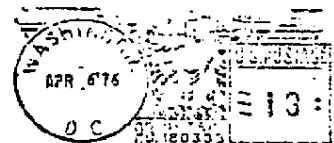
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CHEMISTS
ASSOCIATION

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INTEROFFICE
MEMORANDUM

Date MARCH 29, 1976

Subject TOXIC SUBSTANCE CONTROL LEGISLATION

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EPA continues to campaign for tough Toxic Substance Control Legislation.
Attached is EPA Administrator Train's speech at the National Press Conference.


A. J. DIGLIO

/mjv
Attachment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 26, 1976

615-158100
MAR 24 1976

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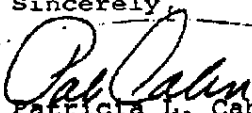
NOTE TO CORRESPONDENTS:

Environmental Protection Agency Administrator Russell E. Train told the National Press Club in Washington, D.C. on February 26, 1976, that it's time to start testing chemicals, not people, in the fight against cancer and other major diseases.

He urged the enactment of Toxic Substances Control Legislation that would give "the American people not only the opportunity to understand and assess the risks and benefits of these chemicals, but a decisive voice in sorting out these risks and benefits."

I am attaching a copy of his remarks for your consideration. If we can answer any questions you may have on this issue, please call.

Sincerely,


Patricia L. Cahn, Director
Office of Public Affairs

Attachment

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REMARKS BY THE HONORABLE RUSSELL E. TRAIN
ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY
PREPARED FOR DELIVERY BEFORE THE
NATIONAL PRESS CLUB
THURSDAY, FEBRUARY 26, 1976, 1:00 P.M.

Testing Chemicals, Not People:
Bringing the Chemical Threat Under Control

W.H. Auden once remarked that: "Today in the technologically advanced countries . . . we have little to fear from nature; our only serious problem is man . . . His mastery over nature has, as it were, brought man back to the same point at which he stood when he was utterly helpless before her."

There are, however, some differences. It is, to begin with, no longer the creatures and forces of the natural world that most threaten us: it is no longer even such historic diseases as the pox or the plague; it is, instead, such strange new creatures of our own making as "bis-chloromethyl ether" and "nitrosamines" and "polychlorinated biphenyls" and "polyvinyl chloride." They are all around us -- in our air, our water, our food, and in the things we touch. When they hit us, we don't feel a thing. Their ill-effects may not show up until decades later, in the form of cancer -- or even generations later, in the form of mutated genes -- when it is, often, too late to undo the damage.

Most Americans had no idea, until relatively recently, that they were living so dangerously. They had no idea that when they went to work in the morning, or when they ate their breakfast -- that when they did the things they had to do to earn a living and keep themselves alive and well -- that when they did things as ordinary, as innocent and as

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essential to life as eat, drink, breathe or touch they could, in fact, be laying their lives on the line. They had no idea that, without their knowledge or consent, they were often engaging in a grim game of chemical roulette whose result they would not know until many years later.

They had no idea until, increasingly over recent years, they picked up the morning paper or turned on the evening news and learned of some new chemical hazard they had been exposed to, often for years and almost always unwittingly. Increasingly, as well, they learned about the appallingly high death rates as a result of cancer and saw people they knew and loved go through the awful agony of a death by cancer. As a result, I think, the American people are deeply concerned both over the pervasive presence of chemical contaminants throughout the environment and over the high death rates from cancer. And they may even make the connection between the two. But I do not think there is, among the public at large, any real understanding of the precise nature and extent of the hazards posed by chemical contaminants -- as causes not only of cancer but of other serious ills and afflictions -- or of what we can and must do to deal with them.

Let me highlight some of the most important points we should keep in mind about chemicals and their effects upon human health and life:

1. Over the past few decades, and especially since the end of World War II, we have released into the environment a vast volume of entirely new chemical compounds with little or no knowledge of their health effects and virtually no effort to determine those effects and to regulate the release of many chemicals that might be hazardous.

2. We have reaped enormous benefits from these chemicals -- indeed, from the truly marvelous advances in chemical knowledge and technology that we have achieved throughout modern times. We must measure these benefits, not only in the economic terms that are apparent to us all, but in health terms as well. The fact that we are the first generation in human history to be virtually free of the major infectious diseases is, in no small degree, a result of the application of chemical advances to modern medicine and modern life.

3. The World Health Organization estimates that between 60 to 90 percent of all cancers are the result of environmental factors -- ^{40% Tobacco caused} in the broadest sense of that phrase. National Cancer Institute studies have shown that the highest cancer rates in the country occur in areas with the heaviest concentrations of industrial chemical use and activity. Yet of all the chemical agents in the environment, probably only a very small fraction is responsible for that large share of cancer. Indeed, the odds are that only a relatively small portion of the chemicals in our environment pose any serious health threats. - NOTE

4. It may take only limited exposure to contract cancer. It typically takes anywhere from 15 to 40 years after that exposure for the first onset of cancer to occur. Because of that long latency period, we have reason to believe that the full impact of the chemical explosion we have experienced over the past 30 years has only begun to show up in our cancer statistics. Yet already, the experts tell us, one out of every four Americans now alive will ultimately contract some form of cancer.

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5. A large and growing share of the diseases that cripple and kill us are caused by environmental factors -- again, in the broadest sense of that phrase. These diseases are going to take an increasingly heavy toll upon our lives and well-being, unless and until we stop trying to deal with them by treating them after they occur, and start taking serious steps to prevent them from occurring in the first place. Our national health care effort must increasingly stress the prevention rather than the treatment of disease, and effective measures for the assessment and control of potentially dangerous chemicals and other agents before they enter the environment must be a key element in this new shift toward preventive medicine.

To expand on these points: There are today more than 2 million different known chemicals; every year, this list grows by an estimated 25,000 new compounds. There are today more than 30,000 chemicals in actual commercial production; every year, this list grows by some 1000 new compounds. Of the more than 2 million known chemicals, only a few thousand have been tested for carcinogenicity and -- aside from those used in food additives, drugs and pesticides -- only a few hundred have been adequately tested. We know, in fact, very little about the health effects even of the 30,000 chemicals already in commercial production. We have no way of systematically screening the chemicals that do go into production; we have no way of knowing precisely which chemicals go into production every year. In other words, we not only don't know whether

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what's going out there is dangerous -- we don't even know what's going out there.

We have, however, learned one thing: it's what we don't know that can really hurt us, even kill us.

Long after they have been loosed upon the world and the public at large, we have learned what an appallingly wide range of disease and death can be caused by chemicals -- they can attack the liver, the lung, the kidney, the central nervous system; they can cause cancer, infant mortality, and genetic damage. We have learned, for example, that:

- mercury, lead and cadmium can attack the central nervous system;
- carbon tetrachloride and chlorinated phenols can destroy the liver;
- ethylene glycol and cadmium sulfate produce kidney disease;
- asbestos and beryllium often lead to lung disorders;
- vinyl chloride and arsenic cause cancer.

We have seen our fish contaminated by phthalates, our cattle poisoned by polybrominated biphenyls, and our horses killed by dioxin. Fluorides have destroyed forest seedlings, chloramines have killed oysters, and zinc has damaged our wheat crops. And now the fluorocarbons may be threatening the ozone belt.

When I became the first Chairman of the Council on Environmental Quality in February, 1970 -- almost exactly six years ago -- my very

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first directive to our small staff was to develop a legislative proposal for coping with the class of problems presented by chemical and other contaminants. A year later, in February, 1971, this legislation, known as the Toxic Substances Control Act, was submitted by the President to the Congress. Twice, over the past five years, the Senate and the House have passed versions of this legislation, but have been unable to agree on the same version. Last week, the Senate Commerce Committee reported out Toxic Substances Control legislation for action by the Senate. In the House, the legislation is being considered by a subcommittee of the Interstate and Foreign Commerce Committee.

Over the five years since such legislation was first proposed, we have introduced into the commercial market an estimated 5000 new chemicals. We have done so without any systematic, advance assessment of their potential impact upon public health or our ecological resources. We find ourselves still without the authority we need to cope with such long-standing problems as those posed by polychlorinated biphenyls. Last week, you may recall, it was announced that, for the first time in history, the Hudson River will be closed to commercial fishing because it is contaminated by these chemicals. In the Great Lakes, commercial and sports fisheries that are being restored as the result of massive pollution clean-up efforts are now being threatened by PCB contamination. We remain almost entirely unable to discover how harmful a compound can be until years after it has become a rather commonplace item in our everyday life, even a significant factor in our economy. And, over and over again, we find ourselves engaged in an extremely difficult and

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drawn-out struggle to protect the public from a hazard to which it has already been exposed while at the same time trying to avoid putting people out of business or out of work.

— Polyvinyl chloride, for example, was first introduced commercially some 40 years ago. It is the backbone of much of our plastics industry.

Its manufacture, according to industry figures, accounts for one percent of our Gross National Product. Yet it was not until 1974 that we discovered four cases of an extremely rare form of liver cancer among workers in a polyvinyl chloride plant in Louisville. Not until later did we find among these workers excessive cases of more common forms of cancer as well. Only in the last decade or so have we developed the scientific skills and analytic techniques that would enable us to anticipate these effects of vinyl chloride, and a Toxic Substances law enacted several years ago would hardly have helped us prevent this problem. But the odds are that, until we enact such legislation, we will be confronting more and more such situations in the future -- and we can be absolutely certain that, until we enact such legislation, we will be unable to prevent them from occurring. I might add that our experience with vinyl chloride as well as with such chemicals as asbestos and, most recently, Kepone underscores the fact that it is on the job and in the workplace that the hazards posed by such chemicals are most immediate and acute. It is the workers, and the families of workers, in the shops and factories where such chemicals are made and used who bear the brunt of the chemical threat and would benefit most from the early enactment of toxic substances legislation.

The plain fact is that, had the Toxic Substances Act been enacted five years ago when it was first proposed, we would be a lot farther ahead in dealing with some potentially very serious hazards:

-- We would have begun to reverse the spread of polychlorinated biphenyls which are now destroying some of our valuable fisheries;

-- We would already have, as we now do not, reliable test information concerning the effects of vinylidene chloride which is widely used throughout the plastics industry;

-- We would have a greatly improved data base for determining the extent to which benzidine-derived dyes reconvert to free benzidine, a well-known human carcinogen, when these widely-used dyes are accidentally ingested or absorbed;

-- We would have taken a number of steps to clarify the chronic effects and, as necessary, to limit exposure to tris 2,3-dibromopropyl phosphate, which has mutagenic effects in microbial systems and is widely used as a fire retardant in textile products, including children's pajamas.

I do not think any of us is under the illusion that there is, or is ever going to be, any such thing as a simon-pure, anti-toxically safe world. I do not think any of us imagines that there is, or is ever going to be, a real world without very real risks. But there is absolutely no reason why we cannot -- there is, in fact, every reason why we must -- take sensible steps to exercise some intelligent and effective control over the risks that we ourselves create. The basic aim of the toxic substances control legislation before the Congress is to help us gain

that kind of control -- to help us protect human health by bringing down to reasonable levels the risks that chemicals pose while preserving their benefits. We are not talking, in other words, of getting rid of all risks from chemicals, but rather of finding out what the risks are and, eventually, of removing "unreasonable" risks. We are saying that, whatever we do with these chemicals, we ought to know what we're doing before we do it, and we ought to do it with our eyes wide open.

We are saying, more specifically, that before people are unwittingly and unwillingly exposed to a chemical that could hurt or kill them, we take the trouble to find out what the health effects of that chemical might be, and we insist that the public interest be taken fully into account in the process by which we determine those effects and decide whether, or in what circumstances, we "go public" with that chemical. These decisions to test and go public cannot -- as they now are -- be left simply and solely in private hands. The public at large is deeply and directly affected by these decisions, and it must have -- as it now does not -- a very real say in the process by which they are made. The toxic substances legislation now before the Congress would, for the first time, give the public that say.

As you might suspect, there is some disagreement about some of the details of the legislation before the Congress. The Administration strongly supports toxic substances legislation, but wants to make certain that it does not impose unnecessary red tape upon industry or government. Inevitably enough, environmentalists are concerned that the legislation

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will not be nearly strong enough; and industry, or at least some segments of it, is concerned that it will be strong enough to strangle the industry. Sad as it may seem, dull and undramatic as it may appear, the truth lies somewhere in-between. The differences in detail about, and among, the different pieces of legislation before the Congress are far less important than the fact that their common aim is to give public health far more of the weight that it deserves in the decisions by which chemicals enter and spread throughout the human environment -- the common aim of giving the American people not only the opportunity to understand and assess the risks and benefits of these chemicals, but a decisive voice in sorting out these risks and benefits.

The legislation before the Congress would give us the authority, which we do not now have:

- to get better information about the health and ecological effects, the distribution, the uses, the kinds and levels of exposure, of both known and new chemicals;
- to help prevent hazards and harm to human health and the environment from chemicals before we make major economic investments in them;
- to balance the various costs, risks and benefits involved before deciding whether, or under what conditions, a potentially hazardous chemical should be introduced into the environment;
- to help coordinate the presently fragmentary and piecemeal Federal approach to toxic substances.

*EPA administrator given
near dictatorial power to make*

I consider it of urgent importance that the Congress act now -- in this session -- to enact effective toxic substances legislation. ^{Chemical Substances} Remaining differences should be resolved as rapidly as possible. ^{Committee Report} But it is more important to get legislation on the books now than it is to seek perfection. There will be time to improve legislative authority later as we gain more experience. But we can no longer afford to wait for the basic authority to deal effectively with the problems of chemical pollution.

We have done a great deal over the past several years to improve the regulatory process at EPA -- in particular, to make it far more open and equitable. Our decisions are subjected to more searching scrutiny, more critical review, from sources inside and outside the Agency and the government, than those of any other agency. We have made a strenuous and increasingly successful effort -- most recently in developing our Drinking Water regulations and in setting minimum standards for procurement under EPA grants for the construction of wastewater treatment plants -- to get all the major interested and affected parties actively and effectively involved throughout the process of developing a regulation. We also have the most open and rigorous process of economic impact analysis performed by any agency of the Federal government.

It is along these lines, according to these processes, that we would exercise our authority under toxic substances legislation. If the legislation does not require it, I would -- on my own -- appoint an Advisory Committee which is broadly representative of all major interests to help advise us on implementation of the Act.

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It is unfortunate that some segments of the chemical industry, which originally took an extremely constructive approach towards the legislation, have taken to actively lobbying against it. I do not believe that either the public interest, or the interests of the industry, are well served by charges that the legislation could -- in the words of one industry spokesman -- "cripple" the chemical industry and give the Administrator of EPA "near-dictatorial authority over the introduction of new chemical products." The only real "crippling" that is going on is the kind which this legislation would try to prevent -- the crippling of who knows how many Americans every year who contract cancer or some other affliction after exposure to some hazardous chemical agent. Nor has it been on the "near-dictatorial authority" of the EPA Administrator that so many such agents are introduced into the environment without any effort to find out what their health effects are, much less let the public have any say about whether or not, or in what circumstances, it is willing to be exposed to them. Let there be no mistake: the only kind of authority the legislation before the Congress would give us, and the only kind of authority we would intend to exercise, is the authority to act reasonably and responsibly in the public interest -- and that includes the very real interest the public has in a healthy and productive chemical industry.

The chemical industry has annual sales of over \$100 billion. We have estimated that the annual costs to industry as a result of this legislation would range between \$79 million and \$142.5 million. The

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Manufacturing Chemists Association has estimated costs ranging from \$360 million to \$1.3 billion a year, with "start-up" costs of over \$100 million. Dow Chemical Company estimates an annual cost of \$2 billion. At the request of Congress, the General Accounting Office (GAO) analyzed and assessed these different estimates. The GAO concluded that the Dow Chemical estimates were the "least reliable," and that the EPA estimates were the "most reliable" -- although they believed EPA's figures were about 30 percent too low. In testimony before Congress, a GAO spokesman said that "the EPA interpretation is closer than the industry studies to an accurate picture of what the legislation will entail." Indeed, recent developments suggest that real breakthroughs are being made in the development of faster and less costly testing methods. The GAO further pointed out that none of the estimates considered the costs to society in avoidable and unnecessary suffering and death as a result of exposure to hazardous chemicals -- the huge expense that society bears because of the failure to invest enough time and money in determining the hazards of chemicals.

I should think, indeed, that industry would reap some very real benefits from the approach this legislation contemplates. The testing of potentially hazardous chemicals before "going public" with them would let us know, not only which ones are likely to be harmful, but which ones are not. Since these tests are by no means fail-safe or fool-proof, we cannot precisely give a chemical an absolutely "clean bill of health," but the industry can market and the public can accept it with

far greater confidence than they can now. Moreover, the "preventive" approach would increasingly reduce the likelihood that we would have to take action against a chemical after industry has invested extensive resources in its production. Far from "stifling innovation," the legislation should serve to encourage the industry to turn its remarkable skills and resources toward the discovery and use of less hazardous chemicals.

The issue before us is really very clear: will we continue to set so low a value on human life and health that we will refuse to take the thoroughly sensible and modest steps to protect them that the legislation before the Congress would involve? Will we, instead, bring better balance to the decisions by which chemicals are made and marketed by giving full weight to public health in reaching those decisions?

It is not, as some have suggested, a question of assuming that every chemical is dangerous until proven otherwise -- although I would find that a preferable alternative to assuming, as we do now, that every chemical is harmless until we come up with a body count and a clear-cut case. It is a question, rather, of honestly and openly acknowledging that we simply don't know whether a chemical is dangerous or not and that, before we expose the public to it, we should take at least a reasonable amount of trouble to find out.

It is time we started putting chemicals to the test, not people. It is time we gave the people of this country some reason to believe that, every time they take a breath or eat or drink or touch, they are not taking their life into their hands.

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It is time that, down here on earth, we took a couple of small, sensible steps on behalf of human health and life.

AP00037010

[Handwritten: 100-111111]

Author

INTEROFFICE
MEMORANDUM

Date MARCH 29, 1976

Subject EPA AIR EMISSION STANDARDS PREVIEW

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From A. J. DIGLIO

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Attached for your information is the MCA Air Emission Standards and Criteria Task Force Report prepared by S. N. Robinson after an informal visit to the EPA. This information gives a preview of air emission standards that the EPA is now considering.

/mjv
Attachment

[Signature: A. J. Diglio]
A. J. DIGLIO

(320)

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MALLINCKRODT, INC.

ST. LOUIS.

*Review of STANDARDS
in Progress by EPA*

Emission Standards and Criteria Task Force Report

*Wm. H. 29
- Durham, N.C.*

January 19, 1976

S. N. Robinson

I. Activities - Emission Standards and Engineering Division

Mr. Don Goodwin suffered a mild heart attack in December, 1975, and he is just now returning to part time work. Mr. George Walsh is serving as temporary Director. Mr. Walsh noted the status of the following studies:

- A. Coke Ovens: The support document has been revised and should be issued in March, 1976.
- B. Refuse Combustion Units: A regulatory package is being prepared.
- C. Coal Gasification Plants: The support document is now due in May, 1976.
- D. Crushed Stone Plants: A regulatory package is being prepared.
- E. Carbon Black Plants: The support document is due in April, 1976.
- F. Phosphate Rock & Lime Plants: Technical information will be reviewed with the Techniques Advisory Committee in March before preparation of a support document.
- G. Various Hydrocarbon Sources (Surface Coatings, Dry Cleaning, Solvent Degreasing, etc.): Studies are underway on most, but it will be up to a year before support documents are completed.
- H. Steel Mills - Electric Arc Furnaces
Phosphate Fertilizer Operation
Copper-Lead-Zinc Smelters
New source standards have been promulgated.
- I. Published rules on implementation of Section 111.d.
- J. Proposed emission standards for Vinyl Chloride.
- K. Published regulations on modification and reconstruction.

II. Status of Monsanto Study of Multimedia Emissions

I contacted Dr. Robert Benning at Monsanto's Dayton Laboratory (513-268-3411) to learn the status of their contract with EPA to "continue the Houdry investigation". Dr. Benning described a program that goes beyond the original investigation by Houdry:

- A. The program's objective is to "assess the environmental impact of multi-media emissions from a list of sources, using common judgment criteria, in sufficient detail to enable EPA to determine the need for the development of control technology".
- B. The scope of work includes investigating 600 sources in four major categories:
 1. Organic materials
 2. Inorganic materials
 3. Open operations
 4. Combustion operations
- C. The procedure calls for an eight step evaluation of each source:
 1. Select sources to be studied by using an evaluation model that quantifies each of several environmental factors (e.g. emission levels, TLV of item, number of people exposed), tempered with "qualitative judgments" (i.e. political pressure).
 2. Prepare a work plan that identifies cost and time.
 3. Collect current information and prepare preliminary evaluation document; send this to affected industry.
 4. Get EPA decision on whether a sampling program is required.
 5. Prepare a sampling plan.
 6. Conduct the field work.
 7. Prepare a final draft of the environmental assessment document; distribute this for comments.
 8. Publish.
- D. This project is funded at \$1.3 million/year, starting in April, 1975, and continuing for three years.

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II. Status of Monsanto Study of Multimedia Pollution (Continued)

- E. In 1975, nineteen preliminary documents and four completed documents were published, and five sampling programs were undertaken. There are about forty sources in various stages of investigation now, including:

1. Acrylonitrile
2. Phthalic Anhydride
3. Carbon Black
4. Maleic Anhydride
5. Acrylic Acid
6. Coal Fired Industrial & Commercial Boilers
7. Oil Fired Industrial & Commercial Boilers
8. Fuel Burning Stationary Engines - Reciprocating
9. Fuel Burning Stationary Engines - Turbine
10. Fertilizer Mixing Plants
11. Ammonium Nitrate
12. Ammonia
13. Ethylene & Propylene Rubber
14. Ethylene Dichloride
15. Varnish Manufacture
16. Solvent Evaporation - Degreasing
17. Rubber Processing
18. PVC
19. Polychloroprene
20. Flat Glass Manufacture
21. Barium Chemicals
22. Lead Acid Battery Manufacture
23. Zinc Oxide
24. Lead Chemistry
25. Coal Storage Piles