# Toxic Chemicals in our Air Supply: The Need for Action To Protect the Public Health

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Chairman, House Subcommittee on Health and the Environment

The tragedy in Bhopal last December was of a magnitude almost too terrible for most to grasp. More than 2000 were killed and tens of thousands were injured from the leak of methyl isocyanate gas at Union Carbide's pesticide plant in that Indian City. Today, the images of suffering and death that newspapers, magazines and television sets carried into our homes are beginning to fade.

But a legacy remains. Bhopal highlighted the dangers that toxic chemicals leaked or released into the air pose to the public health. As numerous articles in this journal and others attest, it prompted us to scrutinize the chemical industry, not only for the potentially catastrophic large leaks, but also for the routine leaks and ventings which also are a health threat.

### Survey of the Chemical Industry Reveals High Release Rates

Last January, in the wake of concern over Bhopal, the Subcommittee on Health and the Environment initiated a survey of the chemical industry in the United States as part of an effort to evaluate the public health threat from air toxics here in this country. We wrote to the chief executive officers of 86 of America's largest chemical companies requesting information on the amount of poisonous gases and other hazardous compounds being leaked into community air supplies from their plants.

This effort is a far cry from the extensive scientific evaluation that the air toxics problem deserves. But no serious effort had been made to gather even the most basic information on how much of which toxic chemicals are being released into America's air. The survey offered an opportunity to at least roughly gauge the magnitude of the public health threat caused by chemicals leaked or vented from chemical plants.

What we have learned is not reassuring. More than sixty million pounds of toxic chemicals are leaked into the air yearly from just the plants of the 80 companies that responded to our survey. Almost every chemical plant which responded is releasing disturbing levels of compounds proven or suspected of being hazardous to the public health. Many of the reported routine releases are extremely high, far greater than we expected even in the unregulated world of toxic air pollution from chemical plants. For example, consider the following plant emission rates, which were submitted voluntarily in response to our survey:

- Dow Chemical's Midland, Michigan plant releases into the local air supply some 4.6 million pounds each year—more than six tons daily—of the carcinogen methylene chloride.
- Borg Warner Chemical leaks more than 1400 tons per year—four tons each day—of the proven carcinogens acrylonitrile and butadiene into the air from its plant in Parkersburg, West Virginia. From their plant in Ottawa, Illinois, Borg Warner releases more than 270 tons each year—1500 pounds each day—of these same chemicals.
- The Amoco Chemical Plant in Decatur, Alabama leaks more than 915 tons of xylene, a suspected neurotoxin, into that town's air every year—more than two and one half tons each day
- Exxon Chemical's plant in Baton Rouge, Louisiana leaks more than 560,000 pounds of benzene, a proven carcinogen, into that community's air yearly.

### The EPA Record

The release of these and other hazardous compounds—even in such staggering quantities—is wholly unregulated. This is possible because EPA has been, and continues to be, unwilling to designate clearly dangerous air toxics as hazardous under Section 112 of the Clean Air Act. In this way, the Agency has been able to circumvent Congress' clear mandate in the 1970 Clean Air Act to regulate "hazardous air pollutants".

Dangerous substances that EPA refuses to consider hazardous include: formaldehyde, chloroform, PCBs, carbon tetrachloride, and acrylonitrile. All of these compounds have been formally listed as carcinogens by the National Toxicology Program of the U.S. Public Health Service. All of these substances are tightly regulated by the Occupational Safety and Health Administra-

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A graduate of UCLA undergraduate and law schools, Henry A. Waxman was first elected to the House of Representatives in 1974 after three terms in the California State Assembly. As Chairman of the Health and Environment Subcommittee, he bears major responsibility for the Clean Air Act and the Safe Drinking Water Act, and has been a national leader in efforts to preserve and improve upon these and other environmental laws. As Subcommittee Chairman, he is also responsible for a number of other important laws concerning health and consumer protection including, among others, the Consumer Product Safety Act, the Food, Drug and Cosmetic Act, medicaid, medicare, drug patent laws, and product liability legislation. Mr. Waxman has chaired four Health and Environment Subcommittee hearings this year on the air toxics problem and taken testimony from more than 50 witnesses, including government officials, independent researchers, industry representatives and concerned citizens. With Congressmen Tim Wirth (D. Co.) and Jim Florio (D. N.J.), he is a cosponsor of H.R. 2576, the Toxic Release Control Act of 1985.

tion with regard to worker exposure. But there is no limit on the amount of these toxics that may be released into community air supplies.

There are other prominent examples. EPA still does not regard methyl isocyanate (MIC) as hazardous. Another glaring example is phosgene, a nerve gas which killed thousands in World War I. Today, phosgene is handled at hundreds of chemical plants across America. Its release into the air remains unregulated.

While all these substances, and dozens of others, are being released into community air supplies around the country, EPA has set standards for only six air toxics in the past fifteen years.

### America's Health Is Suffering

Perhaps the most disturbing aspect of this situation is that EPA has not gathered the information necessary to evaluate how these hazardous substances are affecting America's health. The Agency has never put in place a comprehensive ambient monitoring regime to provide the crucial data on public exposure to dangerous chemicals. Nor has EPA sought to compile an inventory of how much of which dangerous chemicals are being emitted into America's air supply.

Even within the constraints of the limited data which are available, there is evidence that America's health is suffering as a result of toxic chemicals in the air. We know, for example, that cancer rates are higher near areas where chemical plants are located. A Tulane University study reported that residents living within a mile of major chemical production facilities have an incidence of cancer more than four times the national average (Gottlieb, Shear and Seale, "Lung Cancer Mortality and Residential Proximity to Industry," 45 *Environmental Health Perspectives* pg. 154, 1982). The West Virginia Department of Health reports cancer rates twice the national average at neighborhoods near chemical plants in Charleston (West Virginia Department of Health, "North Charleston, Cancer Mortality 1970–1979" January 1982).

### EPA's New Air Toxic Strategy

After fifteen years of admittedly unsuccessful efforts to regulate the chemical industry, the Agency has embarked on a new strategy. EPA now seeks to have state and local governments assume responsibility for the regulation of air toxics from American industry. The Agency has already proposed to use this tactic for the carcinogen acrylonitrile—announcing this to be a pilot effort for other "local problems" caused by chemical plants.

In testimony before the Health and Environment Subcommittee, state representatives from Louisiana, West Virginia and Massachusetts, the latter representing the association of State and Territorial Air Pollution Program Administrators (STAPPA), have strongly criticized the Agency's new strategy. State and local governments readily admit they do not have the expertise or the resources to develop standards for hazardous emissions from such plants. Even more importantly, the states know that they are no match for multi-national companies threatening to move their jobs and tax base to another state if today's lax standards are tightened.

The comments of Louisiana's Attorney General William Guste, represent the state viewpoint very well:

"I can tell you that the environmental resources of Louisiana are stressed to the limit. We have serious shortages of money and manpower. I find it inconceivable that the Federal Government, with its vastly superior scientific resources, after so many years of inaction, believes the solution to the problem is to shift responsibility to state governments. That policy will make environmental protection a bargaining chip in the efforts of states to induce industry. Inevitably, pressure will be applied to enact less stringent standards than neighboring states in order to win the sweepstakes for industrial location and expansion. The lack of national standards may produce a kind of national auction, the prize being industry, the currency being weak standards for toxic air."

This new EPA strategy is based on the Agency's so-called six month study which relied upon quantitative risk assessment for the conclusion that area sources such as dry cleaners pose a larger health threat nationally than chemical plants. This study is a strong argument for why we must be very careful about the use of risk assessment in the establishment of health protection policies.

In assessing the nature and severity of the air toxics problem, EPA relied upon quantitative analyses which excluded from consideration 95% of all organic chemicals released into the air. See Figure 1. The study authors themselves warn that the excluded chemicals may in fact present significant health risks.

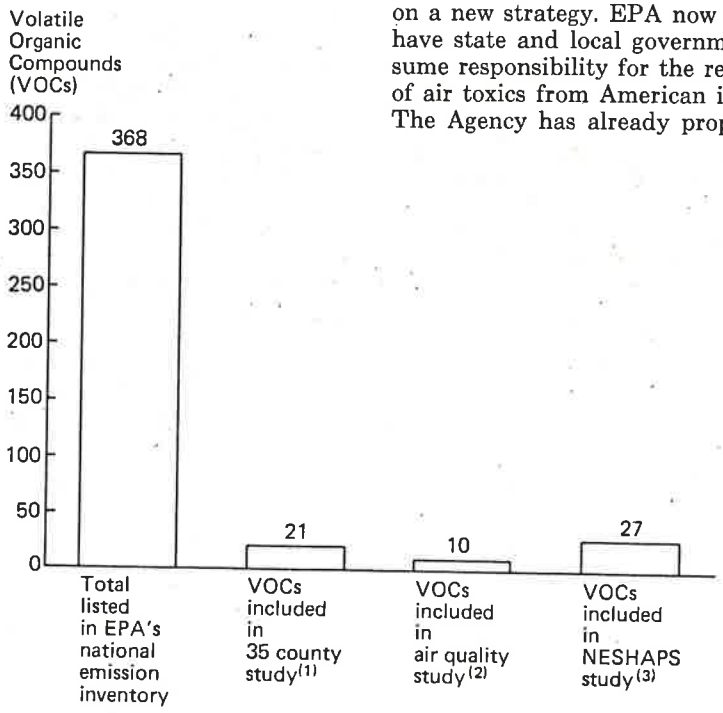


**Figure 1.** These studies form the quantitative basis for EPA's "Six Month" air toxics study:

1. Versar; American Management Systems, Inc. "Hazardous Air Pollutants: An Exposure and Risk Assessment for 35 Counties," U.S. EPA Contract #68-01-6715, September 1984.
2. Hunt, W. F. *et al.*, "Estimated Cancer Incidence Rates from Selected Toxic Air Pollutants Using Ambient Air Data," U.S. EPA, revised March 1985.
3. Schell, R. M. "Estimation of the Public Health Risks Associated with Exposure to Ambient Concentrations of 87 Substances," OAQPS, U.S. EPA, July 1984. Revised February 1985. (Quantitative analyses were attempted for 42 of the original 87 compounds. Emissions estimates were available for only 27 compounds.)

### The Toxic Release Control Act of 1985

Today we are confronted with growing evidence of a serious health threat, and prospects for an effective EPA re-

sponse which are uncertain at best. Congress has a responsibility for the protection of the public health. We can no longer stand by while millions of pounds of toxic chemicals are released unregulated into America's air each year. The time has come for Congress to step in and require rapid and effective action to control the release of hazardous chemicals into the air.

This is why last spring Congressmen Tim Wirth, Jim Florio, and I introduced H.R. 2576, the Toxic Release Control Act of 1985. This bill is designed to get EPA moving on the control of air toxics. Its central provisions concern the collection and public availability of data on toxic releases; a strict schedule for EPA standard-setting for 85 listed chemicals; and a new program to prevent chemical leaks into the air, both routine and catastrophic.

Today it is difficult to even roughly estimate the amount and type of hazardous chemicals regularly being released into our nation's air supply. The absence or a comprehensive and reliable data base is a major concern highlighted repeatedly by contractors and EPA personnel in virtually every one of the quantitative analyses which together comprise EPA's "Six Month" air toxic study. Actual data on population exposures to these substances is virtually unavailable, which is one central reason why we cannot develop any kind of serious quantitative estimate of the public health impact of the air toxic problem. One of the most striking and inexplicable shortcomings of the Agency's new strategy on air toxics is, in fact, the absence of any new information gathering initiative to collect this vitally important data.

Under the Toxic Release Control Act chemical plants and other major air toxics sources would for the first time be required to monitor hazardous chemicals released into the air. EPA would be required to compile a national inventory of hazardous emissions. Additionally, the Agency would be directed to work with major sources of air toxics to put in place an extensive monitoring system to track the level of hazardous chemicals in the air of nearby communities. These programs would focus initially on the 85 listed compounds discussed below. The data produced in this effort would be made available to the public, and provided to state and Federal agencies for use in health studies and pollution control enforcement.

The Toxic Release Control Act contains a list of 85 hazardous chemicals. EPA is required to set health protection standards and put in place rules designed to prevent chemical leaks into the air, both routine and catastrophic, for each of the listed substances. This list includes 35 air toxics identified by EPA as candidates for regulation. Also included on the list are gases and volatile liquids listed by the National Toxicology Program as substances which "may reasonably be anticipated to be carcinogens" or are "known" to be carcinogens; and substances for which the Occupational Safety and Health Administration or the American Conference of Governmental and Industrial Hygienists have issued stringent standards establishing worker exposure limits of .05 ppm or .25 micrograms/m3 or less. Substances not designated by EPA were included only if they were produced in the United States in high volumes, 2 million pounds per year or greater in the most recent year for which production data are available.

Certainly, it would have been better had the Agency evidenced an ability to delineate and aggressively implement an air toxics agenda on its own. After 15 years of waiting, however, it is apparent that Congress must give the Agency binding and specific directives if we are to see progress in this area. It is unfair to ask the American public to wait any longer. The list of 85 chemicals is a response to this unfortunate state of affairs. Admittedly it is only a starting point. But it is a sensible start, incorporating the substances that other agencies have identified as leading air toxic concerns, as well as those substances identified by EPA itself as candidates for regulation. The Agency does have discretion to add other substances to the list as necessary.

Under the Toxic Release Control Act EPA is put on a tight schedule for the establishment of health protection standards for each of the listed substances. Where the health-based standards are not achievable, EPA is empowered to set a technology-based "interim standard" that will in essence require sources to do the best they can to reduce toxic emissions.

Today economic factors are the single criteria controlling the level of release of toxic substances into community air supplies, even for the hundreds of compounds already regulated by OSHA as hazardous. Sources should be required to do all that the can to reduce the release of such compounds into the air. The additional costs for pollution control and leak prevention should rightfully be a part of the costs of doing business, like fire prevention or worker protection efforts, and reflected in the price of the products industry produces.

The road we choose for addressing the air toxics problem will affect the health of millions of Americans in the years to come. Unfortunately, EPA's record, and EPA's new strategy, provide clear evidence that if the Congress does not act, the American public will remain unprotected.