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**Interoffice
Communication**

TO: Environmental Coordinators

FROM: T. G. Grumbles

DATE: April 10, 1989

SUBJ: 313 EMISSION DATA PUBLIC REACTION

For your information, attached are two articles regarding the recent Congressional Report released on March 22. Also attached are two reports:

- 1) The National Toxic Release Inventory (released on March 22)
- 2) Danger Downwind - A National Wildlife Federation Report on the same data.

As we suspected, the public and governmental reaction to the 313 database was slow to start but is gaining momentum.

This report reemphasizes the need to include "federal" governmental representatives, such as your local congressmen and representatives in your 313 communication efforts. Please consider this action as you develop your programs for this year.



T. G. Grumbles

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Attachment

cc: T. H. Huffman, J. A. DeBernardi, R. D. Gamblin, R. W. Seymour-ABER, L. R. Bauer-BALT, G. D. Williams-Blane, J. B. Maher-HMD, J. Friend-LCCP, J. W. Ware-LAB, R. A. Conrad-VCM, H. D. Garrison-OKC, P. L. Foote-PREM (Articles Only)

Environmental Coordinators: F. G. Jeanson-ABER, D. L. Mahler-BALT, J. R. Goyette-BLANE, M. Tonkovich-HMD, M. G. Hayes, G. L. Foshee, J. R. Arnold-LCCP, E. R. Taylor-VCM, B. J. McCudden-OKC, G. C. Lipps-PREM, R. B. Martin-PONCA, W. L. McClain, D. L. Cohen, M. G. Jakel, D. L. Morgan

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TEL: 707 444-4444

REPORT ON TOXIC EMISSIONS: AN OPENING SALVO ON CLEAN AIR

The first comprehensive look at the amount of toxic chemicals U.S. industry emits into the air has produced outcries from some environmentalists and calls for tougher legislative controls. The report, issued March 22, indicates 2.4 billion pounds of toxic chemicals are released annually, an estimated 886 million lbs/year of which comes from the chemical industry—the single largest source of the air pollutants.

"The magnitude of this problem far exceeds our worst fears," declared Rep. Henry A. Waxman (D., CA), chairman of the health and environment subcommittee of the Energy and Commerce Committee, as he released the report. The emissions statistics based on 1987 data collected by the EPA under Section 313 of the Superfund Amendments and Reauthorization Act (SARA), appear to be an opening volley in the upcoming debate over reauthorization of the Clean Air Act. Indeed, Waxman indicated he plans to use the emission information to build support for a stringent control bill he will introduce shortly after Congress reconvenes from its Easter recess on April 3.

Total chemical-plant emissions are far greater than suggested by Waxman's informal 1985 survey of chemical executives, which concluded some 80 million pounds of toxics were released annually. "That figure was sharply criticized as inflated by industry spokesmen. Now we see that chemical industry releases are fully ten times as high," said Waxman. Moreover, he said, total emissions are probably even greater, because the current data does not include emissions from motor vehicles and small sources, such as dry cleaners and gas stations.

"Such high levels of toxic releases are sure to be accompanied by comparably high levels of human suffering," said Waxman. While it is difficult to demonstrate scientifically the health impacts of air emissions, he argued, "we do know that millions of pounds of carcinogens, mutagens, and neurotoxins are getting into our air supply. We do know that there are numerous studies showing higher cancer rates among those who live near to chemical plants.

We have EPA estimates of thousands of additional deaths each year as a result of air toxics."

Don R. Clay, EPA's acting assistant administrator for air and radiation, says the level of toxics in the air "is a public health problem, but it's not a crisis."

And many in the chemical industry



Waxman: 'releases ten times as high.'

challenge Waxman's interpretation of the emission data, cautioning against the drawing of connections between numbers and possible health impacts. "Anyone who says you can make a link between these numbers and health effects is misleading you," says Jeffery Van, a spokesman for the Chemical Manufacturers Association. He says the raw data contains none of the information about concentration or duration of exposure necessary to reach such conclusions.

Van adds that since the emissions numbers are in many cases estimates rather than data based on monitoring, they cannot be relied upon as exact emission figures. And he suggests chemical emissions are lower today than when the reports were filed because of increased company commitments to reduce emissions.

"Clearly there needs to be reduc-

tions in the emissions, but the concern that there is a public health crisis is not warranted," says Ronald Lang, president of the Synthetic Organic Chemical Manufacturers Association. "We don't believe there are any significant concentrations that would affect public health." While Lang acknowledges that the emission volumes reported by Waxman "are higher than most predictions," he points out that in most areas exposure levels will still be orders of magnitude less than levels determined to be safe for workers.

While the compiled numbers "can serve as a reasonable benchmark for relative performance and as an excellent inventory of what chemicals are being emitted," says David W. Graham, Dow Chemicals' environmental issues manager, any health impacts associated with the data remain unknown. The emission numbers appear relatively large, he says, but "we can't take the next step" and try to convey the health impact of a particular number without significant additional information about individual sources.

But whatever the health implications of the emission numbers, Waxman's report seems sure to focus attention on regulating air toxics as part of the reauthorization of the Clean Air Act. Only seven of the 320 substances industries are required to report on are regulated by EPA. Waxman noted that, by contrast, the Occupational Safety and Health Administration has set nearly 400 workplace standards for toxic chemicals. "If OSHA can regulate these pollutants, so can EPA," he says.

The bill Waxman intends to introduce would no longer leave regulation of dangerous chemicals to EPA discretion. Instead, he explains, it would list hazardous air pollutants and mandate that sources of these pollutants use "all the technology available to reduce their release and protect public health."

According to Waxman, the current system, relying largely on self regulation, discourages responsible companies from spending money to control pollutants. "If they take such steps and their competitors do not, they are put at a competitive disadvantage. The result

is a least-common-denominator approach to air-toxics control."

In addition to curbing routine releases, Waxman said his bill will also contain measures to prevent accidental releases. He cited a 1986 EPA report that documented 6,900 accidental releases leading to 135 deaths over a five-year period. He said facilities in Houston have had more than one chemical accident daily over the past year.

EPA's Clay readily admits that Section 112 of the Clean Air Act is "broken

and needs to be fixed." The law stipulates a cumbersome chemical-by-chemical analysis requiring the development of risk assessments for each substance. Clay thinks "a technological approach would be a reasonable way to go," requiring facilities to install equipment for maximum achievable controls. The Bush administration has promised to address the air-toxics issue in legislation it is preparing but has not yet taken an official position, he says.

Indeed, some change in air-toxics

legislation seems all but inevitable. The recently released emission numbers, says Thomas Helscher, director of congressional affairs at Monsanto, focused attention on the debate. "The difficult step for Congress," he notes, "is to determine what are appropriate reductions and how to achieve them." And, he adds, "it is still very early in the legislative process."

CONRAD B. MACKERRON
in Washington
with David Rotman

CHINA FINDS AN OPEN DOOR IN U.S. PLASTICS

In a bid to blow the polypropylene market wide open, Himont and a group of consumers in the People's Republic of China have set up a joint venture that will own and operate PP plants in the U.S. and help develop promising downstream applications in the huge Chinese market.

The new group, to be called International Multi Petrochemical Enterprises Ltd. (IMPEL), teams Himont with a "consortium of several prominent coastal region and Special Economic Zone companies" in mainland China. In an exclusive interview with *Chemical Week*, Zhang Wanxin, vice-director general at the Beijing-based Research Center of Economic, Technological and Social Development, and Alexander F. Giacco, chairman and CEO of Himont, talked about the venture's origins and promise.

IMPEL will acquire a 50% interest in a 340-million lb/year slurry process PP plant at Lake Charles, LA and a 20% interest in an existing 375 million-lb/year Spheripol process PP unit there. Later, it will build a worldscale Spheripol plant in the U.S. Resins from those plants will flow to Chinese and Hong Kong markets. Under the deal, Himont gets the option to participate in downstream facilities in

China, making such products as film, fiber, and molded articles. Those products will be consumed domestically—particularly in the case of fibers—while others will go to world markets.

Zhang and Giacco both stress the mutual benefits of the deal. Currently, 50% of plastics resins used in China are sourced outside the country. The IMPEL deal gives added security of supply. But more important, for the Chinese players, IMPEL will support "a 'shadow market' of regional production facilities that aren't fully utilized," says Zhang. He emphasizes that IMPEL will cooperate, not compete, with Sinochem and Sinopec.

For Himont, the potentially vast Chinese market represents a "huge test market" for its latest technologies based on Spheripol catalysis.

Himont has been arguing in recent months that PP is a plastic of immense

promise for the engineering materials field (*CW*, March 29, p. 17). "We want to do advanced polymers in China," Giacco insists. "We can get massive volume expansion there to test the rest of the world. I'm a marketing man, and it's a marketing man's dream." What China also represents to Himont is a *tabula rasa*: "It's a huge market, somewhat exclusive and with no prejudices."

In other world markets, those prejudices—about substitution of PP for other plastics, or retooling to meet PP's growing product sophistication—are something Himont is determined to break down. Later this month, it will announce new process developments that relate to products with better extrusion and flow properties. "We want markets where we can change things," says Giacco. Hence China.

To the Chinese participants, IMPEL doesn't exist "just to fulfill short-term PP demand in China," says Zhang. "It's the value added to the resin that matters. The shareholders are downstream people. There'll be more value added by use of cheap local labor in conjunction with high technology. Our ability

to balance foreign exchange will be strengthened." Downstream processing operations are "twenty times" more labor-intensive than resin production, making it sensible to make resins in the U.S. but fabricate products in China—a method both sides agree on.

Neither party is saying much about the financial structure of IMPEL or its source of funds, though Zhang concedes that foreign and domestic sources will be tapped.

PETER R. SAVAGE



Giacco and Zhang: putting 'shadow market' in spotlight.

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THE NEW YORK TIMES MAR. 23, 1989

U.S. Calls Poisoning of Air Far Worse Than Expected and Threat to Public

By PHILIP SHABECOFF

Special to The New York Times

WASHINGTON, March 22 — The first national survey of toxic chemicals released into the air by industry shows they are being emitted at rates that threaten public health, members of Congress and Federal officials said today.

The survey, based on data the Environmental Protection Agency collected from industry last year, was made public today by the House Energy and Commerce Committee's Subcommittee on Health and the Environment. It covered more than 320 chemicals, only seven of which are currently regulated by the E.P.A. The agency said 60 of the

nia Democrat who is subcommittee chairman.

Agency officials said, that while data on the health effects of most of the toxic chemicals were limited, the Administration would support changes in the Clean Air Act to deal with the problem, possibly requiring industry to redesign plants and equipment to reduce emission, for example.

Jeffrey C. Van, a spokesman for the Chemical Manufacturers Association, said, however, that "to suggest a national health problem based on the raw numbers in the survey is very misleading and troubling."

But he added, "It is becoming apparent that the current approach to air toxics isn't doing the job." He said the chemical industry would support new legislation to deal with the problem.

Sources Are Many

The chemical industry is the largest single source of airborne toxic substances reported in the survey. The industry released about 686 million pounds in 1987.

Other emissions come from plants that produce metals, paper, rubber and plastics, electric equipment, petroleum and coal products, furniture and a wide variety of other manufactured products.

No specific maximum levels were established for the 320 chemicals by the Clean Air Act of 1970. The agency was instead charged with assessing the risks of these chemicals and then drafting rules for controlling each one.

But the act did set maximum levels for other pollutants: lead, sulfur dioxide, nitrogen oxides, carbon monoxide, ozone and particulate matter such as dirt, dust and soot.

Progress and Setbacks

In a separate report, the E.P.A. said today that these pollutants had abated from 1978 to 1987, but that levels of ozone and particulate matter had increased between 1986 and 1987 and that improvements in controlling nitrogen

oxide emissions had leveled off.

E.P.A. officials said that the provisions of the Clean Air Act governing airborne toxics were so cumbersome and expensive to carry out, and so vulnerable to legal challenge, that they have not been able to issue more than the seven regulations in the 19 years since the law was enacted.

Mr. Waxman and three other Democrats, Representatives Mickey Leland of Texas, James J. Florio of New Jersey and Gerry Sikorski of Minnesota, said they planned to introduce legislation in the near future that would amend the Clean Air Act to require that industry make sharp reductions in its emissions of toxic substances.

Information on toxic air pollution is now available because of 1986 amendments to the 1980 toxic waste law requiring industry to report all releases of toxic substances into the air, water and land to the E.P.A. as well as to state and local authorities.

'Public Health Problem'

Data on concentrations of airborne air pollution at the local and regional level should now be obtainable from these authorities, Mr. Florio said today.

Don R. Clay, the E.P.A.'s acting Assistant Administrator for Air and Radiation, said that, while little was known about the health effects of most of the chemicals surveyed, "the data suggests there is a public health problem."

Mr. Clay said that some progress had been made in reducing toxic substances in the air, but that emissions continue to constitute a serious problem that requires new legislation. He said he expected the Bush Administration to support such changes.

Mr. Van of the Chemical Manufacturers Association, a leading industry trade group, said that the survey figures based on 1987 data are already out of date because many chemical companies are substantially reducing their emissions of the toxic air pollutants.

He said that companies had begun to reduce their emissions even before the

A survey traces chemicals from industry and everyday use.

chemicals were listed by the Government as causing cancer.

The 320 chemicals covered by the survey include such substances as carbon tetrachloride, butadiene, acrylonitrile, and cadmium, all widely used in various manufacturing processes. Other chemicals listed are known to cause neurological disease or birth defects.

The agency said the survey found 2.4 billion pounds of the chemicals were emitted in 1987. But E.P.A. officials said the situation could actually be far worse because the survey did not include pollution from automobiles, releases from toxic waste dumps and pollution from companies that produce less than 75,000 pounds of the toxic substances annually.

"The magnitude of this problem far exceeds our worst fears," said Representative Henry A. Waxman, a Califor-

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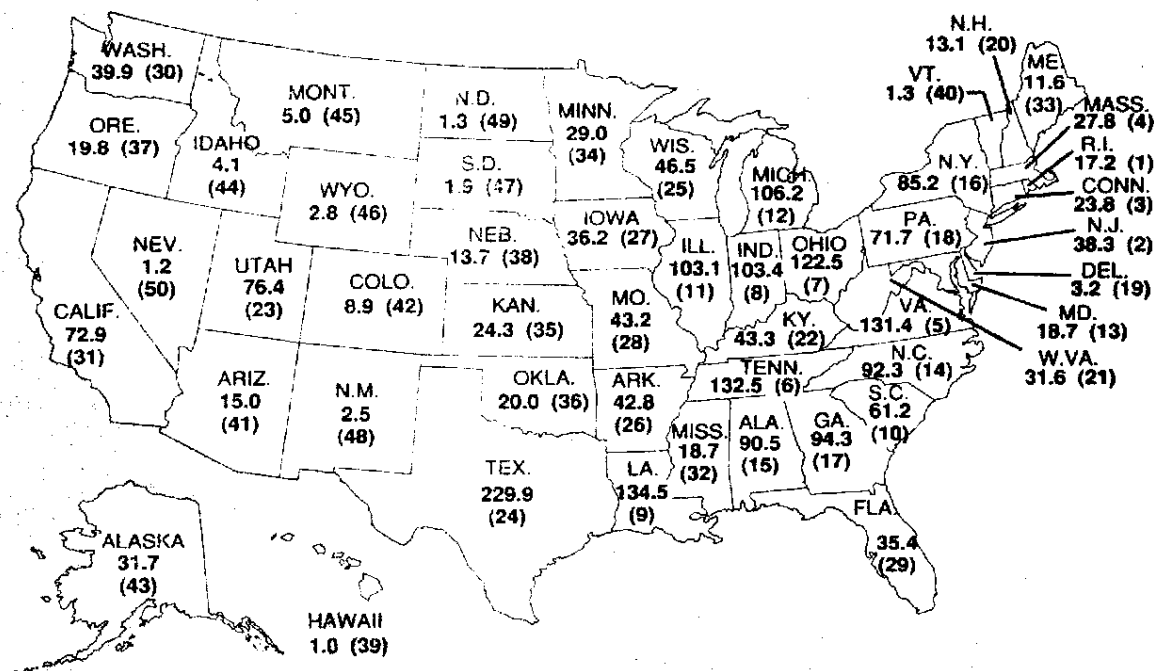
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THE NEW YORK TIMES (CONT'D)

14-2

Poisoning the Air: State by State

Millions of pounds of toxic industrial pollutants released into the air in each state. Number in parentheses is state's ranking in terms of pounds per square mile.



Source: Environmental Protection Agency

The New York Times/March 23, 1989

public-disclosure amendments to the toxic waste law were passed because the accident at Bhopal, India, where more than 3,000 people were killed by an release of methyl isocyanate, had "shocked the industry down to our toes."

Caution Against Panic

He said that the high numbers in the survey do not mean there is a national health problem and added, "If the data is misused, people will be needlessly frightened."

The E.P.A. had previously estimated that toxic air pollution accounts for some 2,000 cases of cancer a year. But that estimate was based on an analysis of only 20 chemicals. Nor did the agency's study consider the combined effects of the chemicals.

The National Wildlife Federation, the nation's biggest conservation organization, issued its own study on toxic air pollution, which was also based on the information submitted to the E.P.A. and had results similar to those re-

ported by the House Health and Environment Subcommittee. Dr. Jerry Poje, a toxicologist for the group, that the reports present, "for the first time, a snapshot of toxic pollution" across the country, and that the results "speak to a nation at risk."

The federation called for passage of national air toxic legislation that would reduce routine emissions of dangerous chemicals, control such pollution from smaller sources and require stringent action to prevent chemical accidents that could produce acute poisoning episodes. It also called on industry to set goals for reducing its toxic emissions and pointed as an example to the Monsanto Chemical Company, which has pledged to reduce such emissions by 90 percent by 1992.

Other environmental groups joined today in demanding new legislation to reduce toxic air pollution.

"You can stop eating apples and grapes, but Congress has to stop toxic air pollution because, you can't stop breathing," said Daniel Becker of Environmental Action, a Washington-based group.

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EMBARGO:

DO NOT RELEASE UNTIL 11:00 A.M., MARCH 22, 1989

**THE NATIONAL
TOXIC RELEASE INVENTORY**

PRELIMINARY AIR TOXIC DATA

March 22, 1989

Subcommittee on Health and the Environment
Committee on Energy and Commerce
U.S. House of Representatives

Henry A. Waxman, Chairman

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THE TOXIC RELEASE INVENTORY: SUMMARY AND BACKGROUND

Attached are preliminary Environmental Protection Agency (EPA) data on the amount of toxic substances released into America's air supply each year. Made public here for the first time, the preliminary data offer the most comprehensive look ever at the magnitude of the air toxics problem in the United States. They show that some 2.4 billion pounds of toxic air pollutants are released annually into America's air supply.

This data was collected as part of the Toxic Release Inventory mandated under section 313 of the Superfund Amendments and Reauthorization Act (SARA) of 1986. The inventory includes estimates for releases of more than 320 chemicals included within the Superfund Section 313 definition of a toxic release.

A Quick Look at the Data

The largest single source of air toxics, by more than four-fold, is the chemical industry, which reported releases of some 886.5 million pounds of toxics into the air supply. The contribution of 19 other industries are provided in table III.

The state with the largest quantity of air toxic releases is Texas. Nearly, 230 million pounds of toxic air pollutants are estimated to be released into that state's air supply annually. Seven additional states -- Louisiana, Tennessee, Virginia, Ohio, Michigan, Indiana, and Illinois -- reported air toxic releases of more than 100 million pounds annually. Only one state, Hawaii, reported less than one million pounds in annual air toxic releases. Tables I and II provide the aggregate levels of toxic chemicals released into the air by each state. Table IX lists the levels of each of the more than 320 air toxics emitted in each state.

The inventory includes some surprises aside from simply the cumulative magnitude of air toxic releases. For example, the state of Kansas is site of the release of some 69,000 pounds annually of phosgene, a potent neurotoxin which killed thousands when used as a nerve gas in World War I. Well over three quarters of the national emissions of this compound originate in Kansas.

The inventory is based on industry estimates of their own emissions, and not on actual monitoring. Hence, there is some reason for concern that the data may underestimate releases. In addition, the inventory only includes toxics released directly into the air supply. Millions of pounds of toxic substances released into surface waters or soil, which then evaporate into the air supply, are not reflected in the data. The inventory does not include releases from small sources, such as dry

cleaners and gas stations.

The inventory data are only preliminary. EPA explains that they are currently working to "upgrade the quality and usability of the database before it is released to the public." EPA cautions that the final data, which they plan to release later this year, "may vary somewhat" from the data supplied to the Subcommittee.

Chemicals Included in the Inventory

More than 320 chemicals are included in the Toxic Release Inventory. Substances included are those listed in the Superfund law as falling within the definition of a toxic chemical. Included on the list are carcinogens, mutagens, neurotoxins, and other substances associated with serious human health effects.

Sixty of the substances in the inventory are listed as carcinogens by the National Toxicology Program of the U.S. Public Health Service. Some examples of listed carcinogens include: dichloromethane (methylene chloride) (112.2 million pounds), benzene (24.8 million pounds), chloroform (23.7 million pounds), formaldehyde (15 million pounds), butadiene (9.9 million pounds) and carbon tetrachloride (4.3 million pounds). Table V provides a list of carcinogens included in the inventory. Releases of listed carcinogens total 235 million pounds nationally.

Neurotoxins on the list include some of the most prevalent chemicals in the inventory. Examples include: xylenes (120 million pounds), toluene (235.6 million pounds), methyl ethyl ketone (124.6 million pounds), and trichloroethylene (TCE) (47.5 million pounds).

Table IV lists the 100 most prevalent chemicals in the inventory. Ten chemicals are reported to be released in quantities in excess of 100 million pounds annually. Among the most prevalent are toluene (235 million pounds), ammonia (233 million pounds), and acetone (186 million pounds).

The section 313 list was drawn from toxic release reporting programs in New Jersey and Maryland. EPA is authorized to remove from the list chemicals not associated with serious health effects. Three chemicals been removed by EPA in the years since the reporting requirement was put in place.

Health Impacts

While each of the chemicals on the list present serious health risks, it is extremely difficult to establish the precise

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health impacts of the reported releases into the air. One reason is that we do not have the information needed to estimate just how much of which toxics individuals are actually breathing. In addition, many of the chemicals are poorly studied, and their health impacts are not thoroughly understood. This is particularly true when the combined impacts of simultaneous exposure to numerous air toxics are taken into account.

Nevertheless, it is clear that the release of 2.4 billion pounds of toxic pollutants into the nation's air supply is a serious public health problem. For example, studies by a Tulane University researcher report cancer rates at more than four times the national average for residents living within a mile of chemical production facilities. Similarly, the West Virginia Department of Health reports cancer rates at twice the national average in neighborhoods near chemical plants in Charleston, W. Va.

The Federal EPA concluded in a 1986 study that air toxics cause more than 2000 cancer cases annually. That study examined effects of only 20 chemicals, only about six percent of the inventory, and did not consider combined effects.

Other EPA studies have associated chemical plant emissions with extremely high cancer risks for nearby communities. According to EPA, individuals near chemical plants in many areas of the country face lifetime risks of cancer from chemical exposure of greater than 1 in 1000. EPA has estimated cancer risks from releases into the air of the chemical butadiene at one especially dangerous chemical plant in West Virginia as 1 in 3 for nearby residents. EPA commonly takes regulatory action in other areas, such as hazardous waste clean-up, to prevent far smaller cancer risks on the order of one in one million.

A 1985 EPA study evaluated the cancer risks posed by breathing air in five cities, Baltimore, Los Angeles, Houston, Philadelphia, and northern New Jersey. The study assessed the levels of 15 air toxics in the ambient air in the cities. It concluded that even in neighborhoods not located near major factories, urban dwellers commonly experience cancer risks as high as 1 in 1,000.

EPA's 1987 study, Unfinished Business: A Comparative Assessment of Environmental Problems, ranks air toxics highly as one of the most severe environmental health risks that we face.

The Regulation of Air Toxics

In the 19 years since the Clean Air Act was enacted, EPA has regulated seven substances as hazardous air pollutants.

These substances are listed in Table VI.

Clean Air Act section 112 calls for prompt regulation of substances that pose risks of serious illness, such as cancer, reproductive disorders, or neurological effects. The Agency has been able to avoid the Clean Air Act mandate for regulation of air toxics by declining to formally designate clearly dangerous substances as toxic.

Examples of substances that EPA has been unwilling to list as 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. (See table V for a more complete list of carcinogens.) Other prominent examples include phosgene, a nerve gas used in World War I, and methyl isocyanate (MIC), a toxic gas which killed thousands in Bhopal, India in 1984.

By contrast, the Occupational Safety and Health Administration (OSHA) has set standards for nearly 400 substances released into the air, including all of those listed above, and the vast majority of the 320 substances included in the Toxic Release Inventory. Workers are therefore protected from workplace exposures to these substances. Air toxics regulated by OSHA are listed in Table VI.

Unfortunately those who live in nearby communities enjoy no such protection. Except in instances where states have stepped forward to fill the vacuum, releases into community air supplies of the more than 300 substances in the inventory not covered by one of EPA's seven standards are entirely unregulated. The level of releases into the air of such substances are determined entirely by the sources, usually on the basis of economic considerations.

LIST OF TABLES

- Table I: Releases of Toxic Chemicals to the Air by State in order of rank.
- Table II: Releases of Toxic Chemicals to the Air by State in alphabetical order.
- Table III: Releases of Toxic Chemicals to the Air by Industry in ranking order.
- Table IV: 100 Toxic Chemicals with Highest Total Reported Releases to the Air in order of rank.
- Table V: Releases of Carcinogens to the Air by Chemical in alphabetical order.
- Table VI: Hazardous Air Pollutants Regulated by U.S. Environmental Protection Agency.
- Table VII: Air Contaminants Regulated by the Occupational Safety and Health Administration.
- Table VIII: Releases of Toxic Chemicals to the Air by Chemical in alphabetical order.
- Table IX: Releases of Toxic Chemicals to the Air by Chemical and State.

Table 1 : TOTAL REPORTED RELEASES OF TOXIC CHEMICALS TO THE AIR BY STATE *
(Rank Order)

<u>State</u>	<u>Emissions</u> (lbs/yr)
Texas	229,910,640
Louisiana	134,524,442
Tennessee	132,461,157
Virginia	131,359,106
Ohio	122,464,629
Michigan	106,236,445
Indiana	103,479,027
Illinois	103,093,458
Georgia	94,296,297
North Carolina	92,328,287
Alabama	90,455,130
New York	85,207,180
Utah	76,369,383
California	72,947,456
Pennsylvania	71,664,910
South Carolina	61,186,447
Wisconsin	46,491,970
Kentucky	43,279,655
Missouri	43,151,138
Arkansas	42,832,699
Washington	39,893,330
New Jersey	38,631,572
Iowa	36,208,159
Florida	35,354,199
Alaska	31,707,083
West Virginia	31,582,771
Minnesota	29,031,436
Massachusetts	27,791,549
Kansas	24,340,188
Connecticut	23,789,981
Oklahoma	20,030,795
Oregon	19,750,059
Mississippi	18,686,813
Maryland	18,655,969
Rhode Island	17,170,133
Arizona	15,031,406
Nebraska	13,698,725
New Hampshire	13,086,835
Maine	11,624,580
Colorado	8,911,711
Montana	5,032,798
Idaho	4,066,590
Delaware	3,181,998
Wyoming	2,835,391
New Mexico	2,501,865
South Dakota	1,908,236
North Dakota	1,333,903
Vermont	1,320,175
Nevada	1,226,820
Hawaii	957,778
Total	2,396,915,248

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* Source: U.S. Environmental Protection Agency (March 1989).

Table 2 : TOTAL REPORTED RELEASES OF TOXIC CHEMICALS TO THE AIR BY STATE *
(Alphabetical Order)

<u>State</u>	<u>Emissions (lbs/yr)</u>
Alabama	90,455,130
Alaska	31,707,083
Arizona	15,031,406
Arkansas	42,832,699
California	72,947,456
Colorado	8,911,711
Connecticut	23,789,981
Delaware	3,181,998
Florida	35,354,199
Georgia	94,296,297
Hawaii	957,778
Idaho	4,066,590
Illinois	103,093,458
Indiana	103,479,027
Iowa	36,208,159
Kansas	24,340,188
Kentucky	43,279,655
Louisiana	134,524,442
Maine	11,624,580
Maryland	18,655,969
Massachusetts	27,791,549
Michigan	106,236,445
Minnesota	29,031,436
Mississippi	18,686,813
Missouri	43,151,138
Montana	5,032,798
Nebraska	13,698,725
Nevada	1,226,820
New Hampshire	13,086,835
New Jersey	38,631,572
New Mexico	2,501,865
New York	85,207,180
North Carolina	92,328,287
North Dakota	1,333,903
Ohio	122,464,629
Oklahoma	20,030,795
Oregon	19,750,059
Pennsylvania	71,664,910
Rhode Island	17,170,133
South Carolina	61,186,447
South Dakota	1,908,236
Tennessee	132,461,157
Texas	229,910,640
Utah	76,369,383
Vermont	1,320,175
Virginia	131,359,106
Washington	39,893,330
West Virginia	31,582,771
Wisconsin	46,491,970
Wyoming	2,835,391
Total	2,396,915,248

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* Source: U.S. Environmental Protection Agency (March 1989).

Table 3 : TOTAL REPORTED RELEASES OF TOXIC CHEMICALS TO THE AIR BY INDUSTRY *
(Rank Order)

	SIC CODE	TOTAL AIR RELEASES
Chemicals	28	886,571,603
Primary metals	33	215,100,461
Paper	26	207,880,906
Transportation equip.	37	192,046,240
Rubber and plastics	30	132,037,605
Fabricated metals	34	110,227,308
Elec. and electronic equip.	36	89,709,015
Petroleum and coal products	29	75,513,697
Printing and publishing	27	47,002,058
Machinery, exc. electrical	35	46,242,666
Furniture and fixtures	25	45,252,222
Instruments	38	41,622,386
Textiles	22	34,916,077
Stone, clay, and glass	32	25,690,460
Lumber and wood	24	24,986,722
Misc. manufacturing	39	21,748,310
Food	20	15,651,659
Leather	31	13,783,466
Tobacco	21	7,460,460
Apparel	23	2,092,960
Multiple categories		184,786,760
Non-manufacturing		32,751,890
Total		2,453,074,931

* Source: U.S. Environmental Protection Agency (March 1989).

VVV 000010302

**Table 4 : 100 TOXIC CHEMICALS WITH HIGHEST TOTAL
REPORTED RELEASES TO THE AIR *
(Rank Order)**

AS NO.	CHEMICAL NAME	TOTAL	CAS NO.	CHEMICAL NAME	TOTAL
108883	TOLUENE	235,686,684	54235	CARBON TETRACHLORIDE	1,259,720
766417	AMMONIA	233,435,468	107131	ACRYLONITRILE	1,035,384
67841	ACETONE	186,153,611	108907	CHLOROBENZENE	3,875,644
67561	METHANOL	182,521,041	75469	PROPYLENE OXIDE	3,680,326
75150	CARBON DISULFIDE	137,239,693	96828	CLIMATE	3,275,442
71556	1,1,1-TRICHLOROETHANE	130,932,398	20626	METHYL METHACRYLATE	3,161,659
78953	METHYL ETHYL KETONE	124,628,050	20	ZINC COMPOUNDS	3,142,805
1330207	XYLENE (MIXED ISOMERS)	120,120,266	91203	NAPHTHALENE	2,938,830
75092	DICHLOROMETHANE	112,252,293	7440666	ZINC (FUME OR DUST)	2,880,906
7782505	CHLORINE	103,423,754	95476	O-XYLENE	2,821,212
1344281	ALUMINUM OXIDE	73,132,776	75058	ACETONITRILE	2,662,047
74851	ETHYLENE	54,199,221	9	COPPER COMPOUNDS	2,581,257
7667010	HYDROCHLORIC ACID	50,474,094	110805	2-ETHOXYTETRAOL	2,495,507
76131	FREON 113	49,061,420	108383	M-XYLENE	2,397,474
79816	TRICHLOROETHYLENE	47,509,657	7440508	COPPER	2,276,124
115071	PROPYLENE	37,832,734	95436	1,2,4-TRIMETHYLBENZENE	2,113,257
11	GLYCOL ETHERS	32,865,927	131113	DIMETHYL PHTHALATE	2,067,002
127184	TETRACHLOROETHYLENE	28,093,496	1634044	METHYL TERT-BUTYL ETHER	1,690,764
71363	N-BUTYL ALCOHOL	27,144,279	79005	1,1,2-TRICHLOROETHANE	1,621,716
108101	METHYL ISOBUTYL KETONE	25,284,541	123728	BUTYRALDEHYDE	1,649,650
71432	BENZENE	24,895,833	13	MANGANESE COMPOUNDS	1,597,832
100425	STYRENE	24,694,164	117817	DI-(2-ETHYLHEXYL) PHTHALATE	1,524,153
67663	CHLOROFORM	23,728,300	92524	BIPHENYL	1,511,111
74873	CHLOROMETHANE	20,858,189	75014	VINYL CHLORIDE	1,468,115
463581	CARBONYL SULFIDE	19,775,085	7664382	PHOSPHORIC ACID	1,380,605
7664939	SULFURIC ACID	15,422,225	78842	ISOBUTYRALDEHYDE	1,370,307
50000	FORMALDEHYDE	15,026,270	120821	1,2,4-TRICHLOROBENZENE	1,154,909
67630	ISOPROPYL ALCOHOL (MANUFACTURE)	14,363,700	7439921	LEAD	1,136,385
107211	ETHYLENE GLYCOL	13,337,401	126998	CHLOROPRENE	1,094,278
3349044	CHLORINE DIOXIDE	12,086,233	10	CYANIDE COMPOUNDS	1,053,740
7664393	HYDROGEN FLUORIDE	11,793,228	123386	PROPIONALDEHYDE	1,026,307
110827	CYCLOHEXANE	10,621,381	78875	1,2-DICHLOROPROPANE	990,902
106990	1,3-BUTADIENE	9,872,710	101688	METHYLENEBIS(PHENYLISOCYANATE)	964,486
108952	PHENOL	8,513,582	3	BARIUM COMPOUNDS	953,057
5484522	AMMONIUM NITRATE (SOLUTION)	8,321,561	12	LEAD COMPOUNDS	911,353
109864	2-METHOXYETHANOL	8,113,631	75650	TERT-BUTYL ALCOHOL	836,371
106423	P-XYLENE	7,094,911	75354	VINYLDIENE CHLORIDE	832,211
7597372	NITRIC ACID	6,660,433	79107	ACRYLIC ACID	818,206
7429905	ALUMINUM (FUME OR DUST)	6,045,198	1319773	CRESOL (MIXED ISOMERS)	770,297
708054	VINYL ACETATE	5,954,126	78922	SEC-BUTYL ALCOHOL	691,292
707062	1,2-DICHLOROETHANE	5,712,143	7	CHROMIUM COMPOUNDS	683,998
7310732	SODIUM HYDROXIDE (SOLUTION)	5,484,290	74839	BROMOMETHANE	673,021
75070	ACETALDEHYDE	5,205,755	96333	METHYL ACRYLATE	636,506
700414	ETHYLBENZENE	5,008,405	161322	BUTYL ACRYLATE	627,170
75218	ETHYLENE OXIDE	4,950,571	62533	ANILINE	597,018
757826	SODIUM SULFATE (SOLUTION)	4,435,245	7439965	MANGANESE	579,686
75003	CHLOROETHANE	4,400,509	7783202	AMMONIUM SULFATE (SOLUTION)	571,116
21	TOTAL FOR MIXTURES	4,357,364	95501	1,2-DICHLOROBENZENE	53,112
			74908	HYDROGEN CYANIDE	49,111
			584849	TOLUENE-2,4-DIISOCYANATE	489,132
			7440020	NICKEL	480,332
			7440473	CHROMIUM	

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* Source: U.S. Environmental Protection Agency (March 1983).

Table 5 : TOTAL REPORTED RELEASES OF CARCINOGENS TO THE AIR BY CHEMICAL *
(Alphabetical Order)

<u>CAS NO.</u>	<u>CHEMICAL NAME</u>	<u>TOTAL</u>
57147	1,1-DIMETHYL HYDRAZINE	1000
106934	1,2-DIBROMETHANE	63,888
107062	1,2-DICHLOROETHANE	5,712,143
106990	1,3-BUTADIENE	9,872,710
542756	1,3-DICHLOROPROPYLENE	33,570
106467	1,4-DICHLOROBENZENE	341,189
123911	1,4-DIOXANE	337,514
39156417	2,4-DIAMINOANISOLE SULFATE	500
95807	2,4-DIAMINOTOLUENE	2,667
79469	2-NITROPROPANE	287,740
91941	3,3'-DICHLOROBENZIDINE	1,007
101779	4,4'-METHYLENEDIANILINE	217,500
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	300
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	18,173
107131	ACRYLONITRILE	4,035,384
7440382	ARSENIC	88,089
2	ARSENIC COMPOUNDS	130,742
1332214	ASBESTOS (FRIABLE)	48,717
71432	BENZENE	24,895,833
92875	BENZIDINE	9,300
98077	BENZOIC TRICHLORIDE	24,010
7440417	BERYLLIUM	4,447
4	BERYLLIUM COMPOUNDS	502
542881	BIS(CHLOROMETHYL) ETHER	1
7440439	CADMIUM	101,969
5	CADMIUM COMPOUNDS	137,428
56235	CARBON TETRACHLORIDE	4,259,720
67663	CHLOROPORM	23,728,300
7440437	CHROMIUM	480,332
7	CHROMIUM COMPOUNDS	691,292
135206	CUPFERRON	920
75092	DICHLOROMETHANE	112,252,293
64675	DIETHYL SULFATE	15,698
77781	DIMETHYL SULFATE	10,817
117817	DI-(2-ETHYLHEXYL) PHTHALATE	1,597,832
106898	EPICHLOROHYDRIN	310,580
140885	ETHYL ACRYLATE	239,466
75218	ETHYLENE OXIDE	4,950,571
50000	FORMALDEHYDE	15,026,270
118741	HEXACHLOROBENZENE	1,804
302012	HYDRAZINE	33,345
10034932	HYDRAZINE SULFATE	0
67630	ISOPROPYL ALCOHOL (MANUFACTURING)	14,363,700
90948	MICHLER'S KETONE	400
7440020	NICKEL	489,132
15	NICKEL COMPOUNDS	265,436
139139	NITRILOTRIACETIC ACID	1,752
90040	O-ANISIDINE	3,603
95534	O-TOLUIDINE	23,204
1336363	POLYCHLORINATED BIPHENYLS (PCB's)	514
75569	PROPYLENE OXIDE	3,660,826
120718	P-CRESIDINE	2,528
156105	P-NITROSODIPHENYLAMINE	250
81072	SACCHARIN (MANUFACTURING)	750
94597	SAFROLE	500
62566	THIOUREA	6,270
1314201	THORIUM DIOXIDE	1,330
584849	TOLUENE-2,4-DIISOCYANATE	492,666
51796	URETHANE	374,600
75014	VINYL CHLORIDE	1,511,157

TOTAL: 234,825,007

* Sources: Environmental Protection Agency (March 1989); Department of Health and Human Services, National Toxicology Program (1989).

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Table 6: LIST OF HAZARDOUS AIR POLLUTANTS REGULATED BY
U.S. ENVIRONMENTAL PROTECTION AGENCY

Pollutant

Beryllium
Mercury
Vinyl Chloride
Asbestos
Benzene
Radionuclides
Arsenic

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Table 7: AIR CONTAMINANTS REGULATED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION *

Substance	CAS No.	Substance	CAS No.
Acetaldehyde	75-07-0	Welding fumes ^{***}	
Acetic acid	64-19-7	Soluble salts	
Acetic anhydride	108-24-7	Alkyls	
Acetone	67-64-1	4-Aminodiphenyl;	92-67-1
Acetonitrile	75-05-8	see 1910.1011	
2-Acetylaminofluorine;	53-96-3	2-Aminoethanol;	
see 1910.1014		see Ethanolamine	
Acetylene dichloride;		2-Aminopyridine	504-29-0
see 1,2-Dichloroethylene		Amitrole	61-82-5
Acetylene tetrabromide	79-27-6	Ammonia	7664-41-7
Acetylsalicylic acid		Ammonium chloride	
(Aspirin)	50-78-2	fume	12125-02-9
Acrolein	107-02-8	Ammonium sulfamate	7773-06-0
Acrylamide	79-06-1	Total dust	
Acrylic acid	79-10-7	Respirable fraction	
		n-Amyl acetate	628-63-7
		sec-Amyl acetate	626-38-0
Acrylonitrile;	107-13-1	Aniline and homologs	62-53-3
see 1910.1045		Anisidine (o-,p-isomers)	29191-52-4
Aldrin	309-00-2	Antimony and compounds	
Allyl alcohol	107-18-6	(as Sb)	7440-36-0
Allyl chloride	107-05-1	ANTU (Alpha naphthyl-	
Allyl glycidyl ether		thiourea)	86-88-4
(AGE)	106-92-3	Arsenic, organic	
Allyl propyl disulfide	2179-59-1	compounds (as As)	7440-38-2
alpha-Alumina	1344-28-1	Arsenic, inorganic	Varies
Total dust		compounds (as As);	with
Respirable fraction		see 1910.1018	compound
Aluminum (as Al)	7429-90-5	Arsine	7784-42-1
Metal		Asbestos;	Varies
Total dust		see 1910.1001	VVV 000010306
Respirable fraction		Atrazine	1912-24-9
Pyro powders		Azinphos methyl	86-50-0

* Source: U.S. Occupational Safety and Health Administration (1989).

Substance

Barium, soluble compounds

(as Ba) 7440-39-3

Barium sulfate 7727-43-7

Total dust

Respirable fraction

Benzoyl 17804-35-2

Total dust

Respirable fraction

Benzene; 71-43-2

see 1910.1028

Benzidine; 92-87-5

see 1910.1010

p-Benzoquinone;

see Quinone

Benzo(a)pyrene;

see Coal tar pitch

volatiles

Benzoyl peroxide 94-36-0

Benzyl chloride 100-44-7

Beryllium and beryllium
compounds (as Be) 7440-41-7

Biphenyl; see Diphenyl

Bismuth telluride, Undoped 1304-82-1

Total dust

Respirable fraction

Bismuth telluride, Se-doped

Borates, tetra,

sodium salts

Anhydrous 1330-43-4

Decahydrate 1303-96-4

Pentahydrate 12179-04-3

Boron oxide 1303-86-2

Total dust

Respirable fraction

Boron tribromide 10294-33-4

Boron trifluoride 7637-07-2

Bromacil 314-40-9

Bromine 7726-95-6

Bromine pentafluoride 7789-30-2

Bromoform 75-25-2

Butadiene (1,3-

Butadiene) 106-99-0

Butane 106-97-8

Butanethiol; see Butyl

mercaptan

2-Butanone (Methyl
ethyl ketone) 78-93-3

2-Butoxyethanol 111-76-2

n-Butyl-acetate 123-86-4

sec-Butyl acetate 105-46-4

tert-Butyl acetate 540-88-5

Butyl acrylate 141-32-2

n-Butyl alcohol 71-36-3

sec-Butyl alcohol 78-92-2

tert-Butyl alcohol 75-65-0

Butylamine 109-73-9

tert-Butyl chromate

(as CrO_3) 1189-85-1

n-Butyl glycidyl ether
(BGE) 2426-08-6

n-Butyl lactate 138-22-7

Butyl mercaptan 109-79-5

o-sec-Butylphenol 89-72-5

p-tert-Butyltoluene 98-51-1

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Substance	CAS No.
Cadmium fume (as Cd)	7440-43-9
Cadmium dust (as Cd)	7440-43-9
Calcium carbonate	1317-65-3
Total dust	
Respirable fraction	
Calcium cyanamide	156-62-7
Calcium hydroxide	1305-62-0
Calcium oxide	1305-78-8
Calcium silicate	1344-95-2
Total dust	
Respirable fraction	
Calcium sulfate	7778-18-9
Total dust	
Respirable fraction	
Camphor, synthetic	76-22-2
Caprolactam	105-60-2
Dust	
Vapor	
Captan (Difolatan ^R)	2425-06-1
Captan	133-06-2
Carbaryl (Sevin ^R)	63-25-2
Carbofuran (Furadan ^R)	1563-66-2
Carbon black	1333-86-4
Carbon dioxide	124-38-9
Carbon disulfide	75-15-0
Carbon monoxide	630-08-0
Carbon tetrabromide	558-13-4
Carbon tetrachloride	56-23-5
Carbonyl fluoride	353-50-4
Catechol	
(Pyrocatechol)	120-80-9

Substance	CAS No.
Cellulose	9004-34-6
Total dust	
Respirable fraction	
Cesium hydroxide	21351-79-1
Chlordane	57-74-9
Chlorinated camphene	8001-35-2
Chlorinated diphenyl	
oxide	55720-99-5
Chlorine	7782-50-5
Chlorine dioxide	10049-04-4
Chlorine trifluoride	7790-91-2
Chloroacetaldehyde	107-20-0
α-Chloroacetophenone	
(Phenacyl chloride)	532-27-4
Chloroacetyl chloride	79-04-9
Chlorobenzene	108-90-7
α-Chlorobenzylidene	
malononitrile	2698-41-1
Chlorobromomethane	74-97-5
2-Chloro-1,3-butadiene;	
see b-Chloroprene	
Chlorodifluoromethane	75-45-6
Chlorodiphenyl (42%	
Chlorine) (PCB)	53469-21-9
Chlorodiphenyl (54%	
Chlorine) (PCB)	11097-69-1
1-Chloro,2,3-epoxypropane;	
see Epichlorohydrin	
2-Chloroethanol;	
see Ethylene chlorohydrin	
Chloroethylene;	
see Vinyl chloride	

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Chloroform	
(Trichloromethane)	67-66-3
bis(Chloromethyl) ether;	542-88-1
see 1910.1008	
Chloromethyl methyl ether;	107-30-2
see 1910.1006	
1-Chloro-1-nitropropane	600-25-9
Chloropentafluoro-	
ethane	76-15-3
Chloropicrin	76-06-2
beta-Chloroprene	126-99-8
o-Chlorostyrene	2039-87-4
o-Chlorotoluene	95-49-8
2-Chloro-6-trichloro-	
methyl pyridine	1929-82-4
Total dust	
Respirable fraction	
Chlorpyrifos	2921-88-2
Chromic acid and chromates	
(as CrO_3)	Varies with compound
Chromium (II) compounds	
(as Cr)	Varies with compound
Chromium (III) compounds	
(as Cr)	Varies with compound
Chromium metal (as Cr)	7440-47-3

Chrysene;	218-01-9
see Coal tar pitch	
volatiles	
Clopidol	2971-90-6
Total dust	
Respirable fraction	
Coal dust (less than	
5% SiO_2),	
Respirable quartz	
fraction	—
Coal dust (greater than	
or equal to 5% SiO_2),	
Respirable quartz	
fraction	—
Coal tar pitch vola-	
tiles (benzene sol-	
uble fraction), anthra-	
cene, BaP, phenan-	
threne, acridine,	
chrysene, pyrene	8007-45-2
Cobalt metal, dust,	
and fume (as Co)	7440-48-4
Cobalt carbonyl (as Co)	10210-68-1
Cobalt hydrocarbonyl	
(as Co)	16842-03-8
Coke oven emissions;	—
see 1910.1029	
Copper	7440-50-8
Fume (as Cu)	
Dusts and mists (as Cu)	

Cotton dust (raw),	—
Crag herbicides (Sesone)	135-78-7
Total dust	
Respirable fraction	
Cresol, all isomers	1319-77-3; 95-48-7; 108-39-4; 106-44-5
Crotonaldehyde	123-73-9; 4170-30-3
Crofonate	299-86-5
Cumene	98-82-8
Cyanamide	420-04-2
Cyanides (as CN)	151-50-8
Cyanogen	460-19-5
Cyanogen chloride	506-77-4
Cyclohexane	110-82-7
Cyclohexanol	108-93-0
Cyclohexanone	108-94-1
Cyclohexene	110-83-8
Cyclohexylamine	108-91-8
Cyclonite	121-82-4
Cyclopentadiene	542-92-7
Cyclopentane	287-92-3
Cyhexatin	13121-70-5
2,4-D (Dichlorophenoxy- acetic acid)	94-75-7
Decaborane	17702-41-9
Demeton (Systox ^R)	8065-48-3
Dichlorodiphenyltri- chloroethane (DDE)	50-29-3

Dichlorvos (DDVP)	62-73-7
Diacetone alcohol (4-Hydroxy-4-methyl- 2-pentanone)	123-42-2
1,2-Diaminoethane; see Ethylenediamine	
Diazinon	333-41-5
Diazomethane	334-88-3
Diborane	19287-45-7
1,2-Dibromo- 3-chloropropane; see 1910.1044	96-12-8
2-N-Dibutylamino- ethanol	102-81-8
Dibutyl phosphate	107-66-4
Dibutyl phthalate	84-74-2
Dichloroacetylene	7572-29-4
o-Dichlorobenzene	95-50-1
p-Dichlorobenzene	106-46-7
3,3'-Dichlorobenzidine; see 1910.1007	91-94-1
Dichlorodifluoro- methane	75-71-8
1,3-Dichloro-5,5- dimethyl hydantoin	118-52-5
1,1-Dichloroethane	75-34-3
1,2-Dichloroethylene	540-59-0
Dichloroethyl ether	111-44-4
Dichloromethane; see Methylene chloride	

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Dichloromonofluoro-
ethane 75-43-4
1,1-Dichloro-1-nitro-
ethane 594-72-9
1,2-Dichloropropane;
see Propylene
dichloride
1,3-Dichloropropene 542-75-6
2,2-Dichloropropionic
acid 75-99-0
Dichlorotetrafluoro-
ethane 76-14-2
Dicrotophos 141-66-2
Dicyclopentadiene 77-73-6
Dicyclopentadienyl iron 102-54-5
Total dust
Respirable fraction

Dieldrin 60-57-1
Diethanolamine 111-42-2
Diethylamine 109-89-7
2-Diethylaminoethanol 100-37-8
Diethylene triamine 111-40-0
Diethyl ether; see
Ethyl ether
Diethyl ketone 96-22-0
Diethyl phthalate 84-66-2
Difluorodibromomethane 75-61-6
Diglycidyl ether
(DGE) 2238-07-5
Dihydroxybenzene; see
Hydroquinone
Diisobutyl ketone 108-83-8

Diisopropylamine 108-18-9
4-Dimethylaminoazobenzene; 60-11-7
see 1910.1015
Dimethoxymethane; see
Methylal
Dimethyl acetamide 127-19-5
Dimethylamine 124-40-3
Dimethylaminobenzene;
see Xylidine
Dimethylaniline
(N-Dimethyl-aniline) 121-69-7
Dimethylbenzene; see
Xylene
Dimethyl-1,2-dibromo-
2,2-dichloroethyl
phosphate 300-76-5
Dimethylformamide 68-12-2
2,6-Dimethyl-4-hepta-
none; see Diisobutyl
ketone
1,1-Dimethylhydrazine 57-14-7
Dimethylphthalate 131-11-3
Dimethyl sulfate 77-78-1
Dinitolmide (3,5-
Dinitro-o-toluidide) 148-01-6
Dinitrobenzene (all
isomers) 99-65-0
100-25-4
Dinitro-o-cresol 534-52-1
Dinitrotoluene 121-14-2
Dioxane (Diethylene
dioxide) 123-91-1

Substance	CAS No.
Dioxathion (DeNav)	78-34-2
Oiphenyl (Biphenyl)	92-52-4
Diphenylamine	122-39-4
Oiphenylmethane diiso- cyanate; see Methylene bisphenyl isocyanate	
Dipropylene glycol methyl ether	34590-94-8
Dipropyl ketone	123-19-3
Diquat	85-00-7
Di-sec octyl phthalate (Di-2-ethylhexyl- phthalate)	117-81-7
Disulfiram	97-77-8
Disulfoton	298-04-4
2,6-Di-tert-butyl-p- cresol	128-37-0
Diuron	330-54-1
Divinyl benzene	108-57-6
Emery Total dust Respirable fraction	112-62-9
Endosulfan	115-29-7
Endrin	72-20-8
Epichlorohydrin	106-89-8
EPN	2104-64-5
1,2-Epoxypropane; see Propylene oxide	
2,3-Epoxy-1-propanol; see Glycidol	

Substance	CAS No.
Ethanethiol; see Ethyl mercaptan	
Ethanolamine	141-43-5
Ethion	563-12-2
2-Ethoxyethanol	110-80-5
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9
Ethyl acetate	141-78-6
Ethyl acrylate	140-88-5
Ethyl alcohol (Ethanol)	64-17-5
Ethylamine	75-04-7
Ethyl amyl ketone (5-Methyl-3-heptanone)	106-68-3
Ethyl benzene	100-41-4
Ethyl bromide	74-96-4
Ethyl butyl ketone (3-Heptanone)	106-35-4
Ethyl chloride	75-00-3
Ethyl ether	60-29-7
Ethyl formate	109-94-4
Ethyl mercaptan	75-08-1
Ethyl silicate	78-10-4
Ethylene chlorohydrin	107-07-3
Ethylenediamine	107-15-3
Ethylene dibromide	106-93-4
Ethylene dichloride	107-06-2
Ethylene glycol	107-21-1
Ethylene glycol dinitrate	628-96-6

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98-00-0	furfuryl alcohol	8006-61-9	Gasoline	Germanium tetr-	hydride	7782-65-2	111-30-8	glycerol (misc)	56-81-5	total dust	Respirable fraction	glycidol	556-52-5	Glycol monoethyl ether; see 2-ethoxyethanol	Grain dust (oat, wheat, barley)	Graphite, natural	respirable dust	1782-42-5	—	Graphite, synthetic	total dust	Respirable fraction	Cuthion [®] ; see Azinphos	methyl	Gypsum	1778-18-9	total dust	Respirable fraction	Naftun	76-44-8	heptachlor	142-82-5	Hexachlorobutadiene	87-68-3	Hexachlorocyclo-	pentadiene	17-47-4	Hexachloroethane	67-12-1	Hexachloronaphthalene	1335-87-1
98-00-0	ethylene glycol methyl	acetate; see methyl	cellulosic acetate	ethyleneimine: see 1910.1012	ethylene oxide: see 1910.1047	ethylene chloride; see 1,1-dichloroethane	16219-75-3	N-Ethylmorpholine	100-74-3	22224-92-6	Fenamiphos	Fensulfothion (Dasanit)	115-90-2	55-38-9	Fenthion	14484-64-1	Ferbam	total dust	Respirable fraction	Ferrovanadium dust	Varies with compound	1782-41-4	Fluorine	Fluorotrifluoro-	methane (Trichloro-	Fluoromethane)	944-22-9	Formofos	Formaldehyde; see 1910.1048;	Formamide	64-18-6	Formic acid	98-01-1	Furfural							

Hexafluoroacetone	684-16-2
n-Hexane	110-54-3
Hexane isomers	Varies with compound
2-Hexanone (Methyl n-butyl ketone)	591-78-6
Hexone (Methyl isobutyl ketone)	108-10-1
sec-Hexyl acetate	108-84-9
Hexylene glycol	107-41-5
Hydrazine	302-01-2
Hydrogenated terphenyls	61788-32-7
Hydrogen bromide	10035-10-6
Hydrogen chloride	7647-01-0
Hydrogen cyanide	74-90-8
Hydrogen fluoride (as F)	7664-39-3
Hydrogen peroxide	7722-84-1
Hydrogen selenide (as Se)	1783-07-5
Hydrogen sulfide	7783-06-4
Hydroquinone	123-31-9
2-Hydroxypropyl acrylate	999-61-1
Indene	95-13-6
Indium and compounds (as In)	7440-74-6
Iodine	7553-56-2
Iodoform	75-47-8

Iron oxide dust and fume (as Fe)	1309-37-1
Total particulate	
Iron pentacarbonyl (as Fe)	13463-40-6
Iron salts (soluble) (as Fe)	Varies with compound
Isoamyl acetate	123-92-2
Isoamyl alcohol (primary and secondary)	123-51-3
Isobutyl acetate	110-19-0
Isobutyl alcohol	78-83-1
Isooctyl alcohol	26952-21-6
Isophorone	78-59-1
Isophorone diisocyanate	4098-71-9
2-Isopropoxyethanol	109-59-1
Isopropyl acetate	108-21-4
Isopropyl alcohol	67-63-0
Isopropylamine	75-31-0
N-Isopropylaniline	768-52-5
Isopropyl ether	108-20-3
Isopropyl glycidyl ether (IGE)	4016-14-2
Kaolin	—
Total dust	
Respirable fraction	
Ketene	463-51-4
Lead inorganic (as Pb); see 1910.1025	7439-92-1

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Substance	CAS No.
Limestone	1317-67-3
Total dust	
Respirable fraction	
Lindane	58-89-9
Lithium hydride	7580-67-8
L.P.G. (Liquefied petroleum gas)	68476-85-7
Magnesite	546-93-0
Total dust	
Respirable fraction	
Magnesium oxide fume	1309-48-4
Total dust	
Respirable fraction	
Malathion	121-75-5
Total dust	
Respirable fraction	
Maleic anhydride	108-31-6
Manganese compounds	
(as Mn)	7439-96-5
Manganese fume	
(as Mn)	7439-96-5
Manganese cyclopentadienyl tricarbonyl	
(as Mn)	12079-65-1
Manganese tetroxide	
(as Mn)	1317-35-7
Marble	1317-65-3
Total dust	
Respirable fraction	
Mercury (aryl and inorganic)(as Hg)	7439-97-6
Mercury (organo) alkyl compounds (as Hg)	7439-97-6
Mercury (vapor) (as Hg)	7439-97-6

Substance	CAS No.
Mesityl oxide	141-79-7
Methacrylic acid	79-41-4
Methanethiol; see Methyl mercaptan	
Methomyl (Lannate)	16752-77-5
Methoxychlor	72-43-5
Total dust	
Respirable fraction	
2-Methoxyethanol; see Methyl cellosolve	
4-Methoxyphenol	150-76-5
Methyl acetate	79-20-9
Methyl acetylene (Propyne)	74-99-7
Methyl acetylene-propadiene mixture (MAPP)	—
Methyl acrylate	96-33-3
Methylacrylonitrile	126-98-7
Methylal (Dimethoxymethane)	109-87-5
Methyl alcohol	67-56-1
Methylamine	74-89-5
Methyl amyl alcohol; see Methyl isobutyl carbinol	
Methyl n-amyl ketone	110-43-0
Methyl bromide	74-83-9
Methyl butyl ketone; see 2-Hexanone	
Methyl cellosolve (2-Methoxyethanol)	109-86-4

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Methyl cellosolve acetate (2-Methoxyethyl acetate)	110-49-6
Methyl chloride	74-87-3
Methyl chloroform (1,1,1-Trichloro- ethane)	71-55-6
Methyl 2-cyanoacrylate	137-05-3
Methylcyclohexane	108-87-2
Methylcyclohexanol	25639-42-3
o-Methylcyclohexanone	583-60-8
Methylcyclopentadienyl manganese tricarbonyl (as Mn)	12108-13-3
Methyl demeton	8022-00-2
4,4'-Methylene bis (2-chloroaniline) (MBOCA)	101-14-4
Methylene bis(4-cyclo- hexylisocyanate)	5124-30-1
Methylene chloride	75-09-2
Methyl ethyl ketone (MEK); see 2-Butanone	
Methyl ethyl ketone peroxide (MEKP)	1338-23-4
Methyl formate	107-31-3
Methyl hydrazine (Mono- methyl hydrazine)	60-34-4
Methyl iodide	74-88-4
Methyl isoamyl ketone	110-12-3

Methyl isobutyl carbinol	108-11-2
Methyl isobutyl ketone; see Hexone	
Methyl isocyanate	624-83-9
Methyl isopropyl ketone	563-80-4
Methyl mercaptan	74-93-1
Methyl methacrylate	80-62-6
Methyl parathion	298-00-0
Methyl propyl ketone; see 2-Pentanone	
Methyl silicate	681-84-5
alpha-Methyl styrene	98-83-9
Methylene bisphenyl isocyanate (MDI)	101-68-8
Metribuzin	21087-64-9
Mica; see Silicates	
Molybdenum (as Mo)	7439-98-7
Soluble compounds	
Insoluble compounds	
Total dust	
Respirable fraction	
Monocrotophos (Azodrin ^R)	6923-22-4
Monomethyl aniline	100-61-8
Morpholine	110-91-8
Naphtha (Coal tar)	8030-30-6
Naphthalene	91-20-3
alpha-Naphthylamine; see 1910.1004	134-32-7
beta-Naphthylamine; see 1910.1009	91-59-8

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Nickel carbonyl	
(as Ni)	13463-39-3
Nickel, metal and	
insoluble compounds	
(as Ni)	7440-02-0
Nickel, soluble compounds	
(as Ni)	7440-02-0
Nicotine	54-11-5
Nitric acid	7697-37-2
Nitric oxide	10102-43-9
p-Nitroaniline	100-01-6
Nitrobenzene	98-95-3
p-Nitrochlorobenzene	100-00-5
4-Nitrodiphenyl;	92-93-3
see 1910.1003	
Nitroethane	79-24-3
Nitrogen dioxide	10102-44-0
Nitrogen trifluoride	7783-54-2
Nitroglycerin	55-63-0
Nitromethane	75-52-5
1-Nitropropane	108-03-2
2-Nitropropane	79-46-9
N-Nitrosodimethylamine;	62-75-9
see 1910.1016	
Nitrotoluene	
o-isomer	88-72-2;
m-isomer	99-08-1;
p-isomer	99-99-0
Nitrotrichloromethane;	
see Chloropicrin	

Nonane	111-84-2
Octachloronaphthalene	2234-13-1
Octane	111-65-9
Oil mist, mineral	8012-95-1
Osmium tetroxide (as Os)	20816-12-0
Oxalic acid	144-62-7
Oxygen difluoride	7783-41-7
Ozone	10028-15-6
Paraffin wax fume	8002-74-2
Paraquat, respirable	
dust	4685-14-7
Parathion	56-38-2
Particulates not other-	
wise regulated	—
Total dust	—
Respirable fraction	—
Pentaborane	19624-22-7
Pentachloronaphthalene	1321-64-8
Pentachlorophenol	87-86-5
Pentaerythritol	115-77-5
Total dust	
Respirable fraction	
Pentane	109-66-0
2-Pentanone (Methyl propyl	
ketone)	107-87-9
Perchloroethylene	
(Tetrachloroethylene)	127-18-4
Perchloromethyl	
mercaptan	594-42-3
Perchloryl fluoride	7616-94-6

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Perlite	—
Total dust	
Respirable fraction	
Petroleum distillates	
(Naphtha)	8002-05-9
Phenol	108-95-2
Phenothiazine	92-84-2
p-Phenylene diamine	106-50-3
Phenyl ether, vapor	101-84-8
Phenyl ether-biphenyl mixture, vapor	—
Phenylethylene; see Styrene	
Phenyl glycidyl ether (PGE)	122-60-1
Phenylhydrazine	100-63-0
Phenyl mercaptan	108-98-5
Phenylphosphine	638-21-1
orate	298-02-2
Phosdrin (Mevinphos ^R)	7786-34-7
Phosgene (Carbonyl chloride)	75-44-5
Phosphine	7803-51-2
Phosphoric acid	7664-38-2
Phosphorus (yellow)	7723-14-0
Phosphorus oxychloride	10025-87-3
Phosphorus penta-chloride	10026-13-8
Phosphorus pentasulfide	1314-80-3

Phosphorus trichloride	7719-12-2
Phthalic anhydride	85-44-9
m-Phthalodinitrile	626-17-5
Picloram	1918-02-1
Total dust	
Respirable fraction	
Picric acid	88-89-1
Piperazine dihydrochloride	142-64-3
Pindone (2-Pivalyl-1,3-indandione)	83-26-1
Plaster of Paris	7778-18-9
Total dust	
Respirable fraction	
Platinum (as Pt) Metal	7440-06-4
Soluble salts	
Portland cement	65997-15-1
Total dust	
Respirable fraction	
Potassium hydroxide	1310-58-3
Propane	74-98-6
Propargyl alcohol	107-19-7
beta-Propiolactone; see 1910, 1013	57-57-8
Propionic acid	79-09-4
Propoxur (Baygon)	114-26-1
n-Propyl acetate	109-60-4
n-Propyl alcohol	71-23-8

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Substance	CAS No.
n-Propyl nitrate	627-13-4
Propylene dichloride	78-87-5
Propylene glycol dinitrate	6423-43-4
Propylene glycol mono- methyl ether	107-98-2
Propylene imine	75-55-8
Propylene oxide	75-56-9
Propyne; see Methyl acetylene	
Pyrethrum	8003-34-7
Pyridine	110-86-1
Quinone	106-51-4
Resorcinol	108-46-3
Rhodium (as Rh), metal fume and insoluble compounds	7440-16-6
Rhodium (as Rh), soluble compounds	7440-16-6
Ronnel	299-84-3
Rosin core solder pyrolysis products, as formaldehyde	—
Rotenone	83-79-4
Rouge	—
Total dust	
Respirable fraction	
Selenium compounds (as Se)	7782-49-2
Selenium hexafluoride (as Se)	7783-79-1

Substance	CAS No.
Silica, amorphous, precipitated and gel	—
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica	68855-54-9
Silica, crystalline cristobalite (as quartz), respirable dust	14464-46-1
Silica, crystalline quartz (as quartz), respirable dust	14808-60-7
Silica, crystalline tripoli (as quartz), respirable dust	1317-95-9
Silica, crystalline tridymite (as quartz), respirable dust	15468-32-3
Silica, fused, respirable dust	60676-86-0
Silicates (less than 1% crystalline silica)	
Mica (respirable dust)	12001-26-2
Soapstone, total dust	—
Soapstone, respirable dust	—
Talc (containing asbestos): use asbestos limit	—
Talc (containing no asbestos), asbestos), respir- able dust	14807-96-6
Tremolite	

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Substance	CAS No.	Substance	CAS No.
Silicon	7440-21-3	Sulfur monochloride	10025-67-9
Total dust		Sulfur pentafluoride	5714-22-7
Respirable fraction		Sulfur tetrafluoride	7783-60-0
Silicon carbide	409-21-2	Sulfuryl fluoride	2699-79-8
Total dust		Sulprofos	35400-43-2
Respirable fraction		Systox ^R , see Demeton	
Silicon tetrahydride	7803-62-5	2,4,5-T	93-76-5
Silver, metal		Talc; see Silicates	
dust and fume (as Ag)	7440-22-4	Tantalum, metal	
Soapstone; see Silicates		and oxide dust	7440-25-7
Sodium azide	26628-22-8	TEDP (Sulfotep)	3689-24-5
(as HN_3)		Tellurium and	
(as NaN_3)		compounds (as Te)	13494-80-9
Sodium bisulfite	7631-90-5	Tellurium hexafluoride	
Sodium fluoroacetate	62-74-8	(as Te)	7783-80-4
Sodium hydroxide	1310-73-2		
		Temephos	3383-96-8
Sodium metabisulfite	7681-57-4	Total dust	
Starch	9005-25-8	Respirable fraction	
Total dust		TEPP	107-49-3
Respirable fraction		Terphenyls	26140-60-3
Stibine	7803-52-3	1,1,1,2-Tetrachloro-	
Stoddard solvent	8052-41-3	2,2-difluoroethane	76-11-9
Strychnine	57-24-9	1,1,2,2-Tetrachloro-	
Styrene	100-42-5	1,2-difluoroethane	76-12-0
Subtilisins (Proteolytic		1,1,2,2-Tetrachloro-	
enzymes)	1395-21-7	ethane	79-34-5
Sucrose	57-50-1	Tetrachloroethylene;	
Total dust		see Perchloroethylene	
Respirable fraction		Tetrachloromethane; see	
Sulfur dioxide	7446-09-5	Carbon tetrachloride	
Sulfur hexafluoride	2551-62-4	Tetrachloronaphthalene	1335-88-2
Sulfuric acid	7664-93-9		

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Substance	CAS No.	Substance	CAS No.
Tetraethyl lead		p-Toluidine	106-49-0
(as Pb)	78-00-2	Toxaphene; see Chlори-	
Tetrahydrofuran	109-99-9	nated camphene	
Tetramethyl lead,		Tremolite; see Silicates	
(as Pb)	75-74-1	Tributyl phosphate	126-73-8
Tetramethyl succino-		Trichloroacetic acid	76-03-9
nitrile	3333-52-6	1,2,4-Trichlorobenzene	120-82-1
Tetranitromethane	509-14-8	1,1,1-Trichloroethane;	
Tetrasodium pyro-		see Methyl chloroform	
phosphate	7722-88-5	1,1,2-Trichloroethane	79-00-5
Tetryl (2,4,6-Trinitro-		Trichloroethylene	79-01-6
phenyl-methyl-nitramine)	479-45-8	Trichloromethane; see	
Thallium, soluble com-		Chloroform	
pounds (as Tl)	7440-28-0	Trichloronaphthalene	1321-65-9
4,4'-Thiobis(6-tert,		1,2,3-Trichloropro-	
Butyl-m-cresol)	96-69-5	pane	96-18-4
Total dust			
Respirable fraction			
Thioglycolic acid	68-11-1	1,1,2-Trichloro-1,2,2-	
Thionyl chloride	7719-09-7	trifluoroethane	76-13-1
Thiram	137-26-8	Triethylamine	121-44-8
Tin, inorganic compounds		Trifluorobromomethane	75-63-8
(except oxides) (as Sn)	7440-31-5	Trimellitic anhydride	552-30-7
Tin, organic compounds		Trimethylamine	75-50-3
(as Sn)	7440-31-5	Trimethyl benzene	25551-13-7
Tin oxide (as Sn)	7440-31-5	Trimethyl phosphite	121-45-9
Titanium dioxide	13463-67-7	2,4,6-Trinitrophenyl;	
Total dust		see Picric acid	
Respirable fraction		2,4,6-Trinitrophenylmethyl	
Toluene	108-88-3	nitramine; see Tetryl	
Toluene-2,4-diisocyan-		2,4,6-Trinitrotoluene	
ate (TDI)	584-84-9	(TNT)	118-96-7
m-Toluidine	108-44-1	Triorthocresyl	
o-Toluidine	95-53-4	phosphate	78-30-8

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Substance	CAS No.
Triphenyl amine	603-34-9
Triphenyl phosphate	115-86-6
Tungsten (as W)	7440-33-7
Insoluble compounds	
Soluble compounds	
Turpentine	8006-64-2
Uranium (as U)	7440-61-1
Soluble compounds	
Insoluble compounds	
n-Valeraldehyde	110-62-3
Vanadium	1314-62-1
Respirable dust	
(as V_2O_5)	
Fume (as V_2O_5)	
Vegetable oil mist	—
Total dust	
Respirable fraction	
 Vinyl acetate	 108-05-4
Vinyl benzene; see Styrene	
Vinyl bromide	593-60-2
Vinyl chloride; see 1910.1017	75-01-4
Vinylcyanide; see Acrylonitrile	
Vinyl cyclohexene	
dioxide	106-87-6
Vinylidene chloride	
(1,1-Dichloro- ethylene)	75-35-4
Vinyl toluene	25013-15-4
VM & P Naphtha	8032-32-4
Warfarin	81-81-2

Substance	CAS No.
Welding fumes (total particulate) ***	—
Wood dust, all soft and hard woods, except Western red cedar	—
Wood dust, Western red cedar	—
Xylenes (o-, m-, p- isomers)	1330-20-7
m-Xylene alpha, alpha'- diamine	1477-55-0
Xylidine	1300-73-8
Yttrium	7440-65-5
Zinc chloride fume	7646-85-7
Zinc chromate (as CrO_3)	Varies with Compound
 Zinc oxide fume	 1314-13-2
Zinc oxide	1314-13-2
Total dust	
Respirable fraction	
Zinc stearate	557-05-1
Total dust	
Respirable fraction	
Zirconium compounds (as Zr)	7440-67-7

VVV 000010322

Table 8 : TOTAL REPORTED RELEASES OF TOXIC CHEMICALS TO THE AIR BY CHEMICAL *
(Alphabetical Order)

CAS NO.	CHEMICAL NAME	TOTAL	CAS NO.	CHEMICAL NAME	TOTAL
71336	1,1,1-TRICHLOROETHANE	130,932,398	67641	ACETONE	186,153,611
79343	1,1,2,2-TETRACHLOROETHANE	126,289	75058	ACETONITRILE	2,721,212
79005	1,1,2-TRICHLOROETHANE	1,698,764	107028	ACROLEIN	40,399
57147	1,1-DIMETHYL HYDRAZINE	1,000	79061	ACRYLAMIDE	10,789
120821	1,2,4-TRICHLOROBENZENE	1,370,307	79107	ACRYLIC ACID	832,211
95636	1,2,4-TRIMETHYLBENZENE	2,276,124	107131	ACRYLONITRILE	4,035,384
106887	1,2-BUTYLENE OXIDE	79,264	107051	ALLYL CHLORIDE	68,217
106934	1,2-DIBROMOETHANE	63,888	134327	ALPHA-BAPHETYLAMINE	890
93501	1,2-DICHLOROBENZENE	574,666	1344281	ALUMINUM OXIDE	73,132,776
107062	1,2-DICHLOROETHANE	5,712,143	7429905	ALUMINUM (FUME OR DUST)	6,045,198
540590	1,2-DICHLOROETHYLENE	132,392	7664417	AMMONIA	233,435,468
78875	1,2-DICHLOROPROPANE	1,026,307	6484522	AMMONIUM NITRATE (SOLUTION)	8,321,561
106990	1,3-BUTADIENE	9,872,710	7783202	AMMONIUM SULFATE (SOLUTION)	579,686
541731	1,3-DICHLOROBENZENE	48,893	62533	ANILINE	627,170
542756	1,3-DICHLOROPROPYLENE	13,570	120127	ANTHRACENE	218,011
106467	1,4-DICHLOROBENZENE	341,189	7440360	ANTIMONY	36,722
123911	1,4-DIOXANE	337,514	1	ANTIMONY COMPOUNDS	91,124
95954	2,4,5-TRICHLOROPHENOL	500	7440382	ARSENIC	88,089
88062	2,4,6-TRICHLOROPHENOL	0	2	ARSENIC COMPOUNDS	130,742
94757	2,4-D (ACETIC ACID)	130,216	1332214	ASBESTOS (FRIABLE)	48,717
615054	2,4-DIAMINOANISOLE	0	7440393	BARIUM	67,828
39156417	2,4-DIAMINOANISOLE SULFATE	500	3	BARIUM COMPOUNDS	964,486
95807	2,4-DIAMINOTOLUENE	2,667	98873	BENZAL CHLORIDE	4,890
120832	2,4-DICHLOROPHENOL	2,321	71432	BENZENE	24,895,833
105679	2,4-DIMETHYLPHENOL	1,432	92875	BENZIDINE	9,300
51285	2,4-DINITROPHENOL	32,100	98077	BENZOIC TRICHLORIDE	24,010
121142	2,4-DINITROTOLUENE	88,091	98884	BENZOYL CHLORIDE	65,803
606202	2,6-DINITROTOLUENE	22,222	94360	BENZOYL PEROXIDE	5,850
87627	2,6-XYLIDINE	0	100447	BENZYL CHLORIDE	40,485
532274	2-CHLOROACETOPHENONE	250	7440417	BERYLLIUM	4,447
110805	2-ETHOXYETHANOL	2,581,257	4	BERYLLIUM COMPOUNDS	502
109864	2-METHOXYETHANOL	8,113,631	92524	BIPHENYL	1,523,883
88753	2-NITROPHENOL	33,149	111444	BIS(2-CHLOROETHYL) ETHER	6,877
79469	2-NITROPROPANE	287,740	103231	BIS(2-ETHYLHEXYL) ADIPATE	111,602
90437	2-PHENYLPHENOL	2,501	542881	BIS(CHLOROMETHYL) ETHER	1
97941	3,3'-DICHLOROBENZIDINE	1,007	74839	BROMOMETHANE	683,998
101804	4,4'-DIAMINODIPHENYL ETHER	560	141322	BUTYL ACRYLATE	636,506
80057	4,4'-ISOPROPYLIDENEDIPHENOL	216,087	85687	BUTYL BENZYL PHTHALATE	213,701
101779	4,4'-METHYENEDIANILINE	217,500	123728	BUTYRALDEHYDE	1,671,714
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	300	7440439	CADMIUM	101,969
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	18,173	5	CADMIUM COMPOUNDS	137,428
534521	4,6-DINITRO-O-CRESOL	1,066	156627	CALCIUM CYANAMIDE	12,750
60093	4-AMINOAZOBENZENE	0	133062	CAPTAN	26,615
52671	4-AMINOBIPHENYL	1	63252	CARSARYL	6,443
100027	4-NITROPHENOL	4,952	75150	CARBON DISULFIDE	137,239,693
99592	5-NITRO-O-ANISIDINE	0	56235	CARBON TETRACHLORIDE	4,259,720
75270	ACETALDEHYDE	5,205,755	463581	CARBONYL SULFIDE	19,775,085
62355	ACETAMIDE	1,992	120809	CATECHOL	272,241

* Source: U.S. Environmental Protection Agency (March 1989).

CAS NO.	CHEMICAL NAME	TOTAL	CAS NO.	CHEMICAL NAME	TOTAL
133904	CHLORAMMEN	508	541413	ETHYL CHLOROPHOSPHATE	18,634
57749	CHLORDANE	2,614	100414	ETHYLBENZENE	5,008,405
7782505	CHLORINE	103,423,754	74851	ETHYLENE	56,199,221
10049044	CHLORINE DIOXIDE	12,086,233	107211	ETHYLENE GLYCOL	13,337,401
79118	CHLOROACETIC ACID	29,893	75218	ETHYLENE OXIDE	4,950,571
108907	CHLOROBENZENE	3,875,644	96457	ETHYLENE THIOUREA	0
518154	CHLOROBENZILATE	269	151544	ETHYLENETHINE	0
75003	CHLOROETHANE	4,400,509	2164172	FLUORETHURON	2,111
47643	CHLOROPORN	23,728,300	50000	FORMALDEHYDE	15,026,270
74873	CHLOROMETHANE	20,858,189	76131	FREON 113	49,061,620
107302	CHLOROMETHYL METHYL ETHER	1,069	11	GLYCOL ETHERS	32,865,927
6	CHLOROPHENOLS	933	76448	HEPTACHLOR	7,286
126998	CHLOROPRENE	1,136,385	118741	HEXACHLOROBENZENE	1,804
1897454	CHLOROTHALONIL	21,081	77474	HEXACHLOROCTCLOPENTADIENE	3,071
7440473	CHRONIUM	480,332	47721	HEXACHLOROETHANE	5,459
7	CHRONIUM COMPOUNDS	691,292	1335871	HEXACHLORONAPHTHALENE	0
7440484	COBALT	42,671	87683	HEXACHLORO-1,3-BUTADIENE	3,580
8	COBALT COMPOUNDS	50,035	302012	HYDRAZINE	33,345
7440508	COPPER	2,397,474	10034932	HYDRAZINE SULFATE	0
9	COPPER COMPOUNDS	2,662,047	7647010	HYDROCHLORIC ACID	50,474,094
1319773	CRESOL (MIXED ISOMERS)	818,206	74908	HYDROGEN CYANIDE	534,942
98828	CUMENE	3,501,738	7664393	HYDROGEN FLUORIDE	11,793,228
80159	CUMENE HYDROPEROXIDE	182,527	123319	HYDROQUINONE	31,023
135206	CUPFERRON	920	78842	ISOBUTYRALDEHYDE	1,380,605
10	CYANIDE COMPOUNDS	1,094,278	67630	ISOPROPYL ALCOHOL (MANUFACTUR)	14,363,700
110827	CYCLOHEXANE	10,621,381	7439921	LEAD	1,154,909
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	12	LEAD COMPOUNDS	953,057
3844459	C.I. ACID BLUE 9, DISODIUM SAL	1,541	58899	LINDANE	561
569642	C.I. BASIC GREEN 4	2	108316	MALEIC ANHYDRIDE	470,922
842079	C.I. SOLVENT YELLOW 14	4	12427382	MANEB	35,930
97563	C.I. SOLVENT YELLOW 3	0	7439965	MANGANESE	597,018
1163195	DECABROMODIPHENYL OXIDE	27,191	13	MANGANESE COMPOUNDS	1,649,650
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	79,359	108781	MELAMINE	248,484
132649	DIBENZOFURAN	61,729	7439976	MERCURY	130,579
84742	DIBUTYL PHTHALATE	328,315	14	MERCURY COMPOUNDS	2,368
25321226	DICHLOROBENZENE (MIXED ISOMERS)	71,708	67561	METHANOL	182,521,041
75274	DICHLOROBROMOMETHANE	14,850	72435	METHOXYCHLOR	3,852
75092	DICHLOROMETHANE	112,252,293	96333	METHYL ACRYLATE	673,021
62737	DICHLORVOS	741	78933	METHYL ETHYL KETONE	124,626,050
115322	DICOFOL	0	60344	METHYL HYDRAZINE	523
111422	DIETHANOLAMINE	480,065	74884	METHYL IODIDE	26,151
84662	DIETHYL PHTHALATE	163,001	108101	METHYL ISOBUTYL KETONE	25,284,541
64675	DIETHYL SULFATE	15,698	624839	METHYL ISOCTANATE	148,181
131113	DIMETHYL PHTHALATE	2,113,257	80626	METHYL METHACRYLATE	3,275,442
77781	DIMETHYL SULFATE	10,817	1634044	METHYL TERT-BUTYL ETHER	2,067,002
117817	DI-(2-ETHYLNEXYL) PHTHALATE	1,597,832	74953	METHYLENE BROMIDE	38,955
106898	EPICHLOROHYDRIN	310,580	101688	METHYLENEBIS(PHENYLISOCYANATE)	990,902
140885	ETHYL ACRYLATE	239,466	90948	MICHLER'S KETONE	400

CAS NO.	CHEMICAL NAME	TOTAL	CAS NO.	CHEMICAL NAME	TOTAL
1313275	POLYMERIZING TRICHLORIDE	109,644	94397	SAPPHIRE	300
106394	M-CRESOL	28,548	78922	SEC-BUTYL ALCOHOL	770,297
106383	M-XYLENE	2,495,587	7782492	SELENIUM	5,022
121497	N,N-DIMETHYLANILINE	129,799	17	SELENIUM COMPOUNDS	14,061
91203	NAPHTHALENE	3,142,805	7440224	SILVER	11,362
7440020	NICKEL	489,132	18	SILVER COMPOUNDS	11,303
15	NICKEL COMPOUNDS	265,436	1310732	SODIUM HYDROXIDE (SOLUTION)	5,484,290
7697372	NITRIC ACID	6,660,433	7757826	SODIUM SULFATE (SOLUTION)	4,435,245
139139	NITRILOTRIACETIC ACID	1,752	100425	STYRENE	24,694,166
98953	NITROBENZENE	128,419	96095	STYRENE OXIDE	1,083
51752	NITROGEN MUSTARD	0	7644939	SULFURIC ACID	15,422,225
55430	NITROGLYCERIN	48,746	100210	TEREPHTHALIC ACID	443,325
71363	N-BUTYL ALCOHOL	27,144,279	75450	TERT-BUTYL ALCOHOL	911,353
117840	N-OCTOYL PHTHALATE	47,970	127184	TETRACHLOROETHYLENE	28,093,496
86306	N-NITROSODIPHENYLAMINE	0	961115	TETRACHLORVINPHOS	0
2234131	OCTACHLORONAPHTHALENE	0	7440280	THALLIUM	0
90060	O-ANISIDINE	3,603	19	THALLIUM COMPOUNDS	250
95487	O-CRESOL	55,855	62566	THIOUREA	6,270
95534	O-TOLUIDINE	23,204	1314201	THORIUM DIOXIDE	1,330
95476	O-XYLENE	2,880,900	7530450	TITANIUM TETRACHLORIDE	162,968
56382	PARATHION	858	108883	TOLLENT	235,686,684
87865	PENTACHLOROPHENOL	23,109	584849	TOLUENE-2,4-DIISOCYANATE	492,666
79210	PERACETIC ACID	8,752	91087	TOLUENE-2,6-DIISOCYANATE	126,471
108952	PHENOL	8,513,582	21	TOTAL FOR MIXTURES	4,357,364
75445	PHOSGENE	80,519	52686	TRICHLORFON	9,718
7664382	PHOSPHORIC ACID	1,468,915	79016	TRICHLOROETHYLENE	47,509,637
7723140	PHOSPHORUS (YELLOW OR WHITE)	11,306	1582098	TRIFLURALIN	2,849
85449	PHTHALIC ANHYDRIDE	419,751	51796	URETHANE	374,600
88891	PICRIC ACID	750	7440622	VANADIUM (FUME OR DUST)	8,635
16	POLY BROMINATED BIPHENYLS	0	108054	VINYL ACETATE	5,954,126
1336363	POLYCHLORINATED BIPHENYLS (PCB)	514	593602	VINYL BROMIDE	162,900
1120714	PROPANE SULFONE	0	75014	VINYL CHLORIDE	1,511,157
123386	PROPIOMALDEHYDE	1,053,740	75354	VINYLDENE CHLORIDE	836,371
114261	PROPOLUR	48	1330207	XYLENE (MIXED ISOMERS)	120,120,266
115071	PROPYLENE	37,832,734	20	ZINC COMPOUNDS	3,161,659
75569	PROPYLENE OXIDE	3,660,826	7440666	ZINC (FUME OR DUST)	2,938,830
75558	PROPYLENEIMINE	500	12122677	ZINER	0
110861	PYRIDINE	297,938	177817	(invalid no. should be 117817)	3,171
104949	P-ANISIDINE	0			
120718	P-CRESIDINE	2,528			
106445	P-CRESOL	86,466			
156105	P-NITROSODIPHENYLAMINE	250			
106503	P-PHENYLENEDIAMINE	117,230			
106423	P-XYLENE	7,094,911			
91225	QUINOLINE	26,481			
106514	QUINONE	1,053			
82688	QUINTOZEKE	253			
81072	SACCHARIN (MANUFACTURING)	750			

**Table 9 : TOTAL REPORTED RELEASES OF TOXIC CHEMICALS TO THE AIR
BY CHEMICAL AND STATE ***

CAS NO.	CHEMICAL NAME	TOTAL	AK	AL	AR	AS	AZ
108883	TOLUENE	235,686,684	27,929	3,420,284	2,036,591	0	353,961
7664417	AMMONIA	233,435,468	30,182,121	2,076,730	17,568,892	582,500	552,500
67641	ACETONE	186,153,611	0	827,966	1,933,697	0	2,349,983
67561	METHANOL	182,521,041	0	3,571,108	3,494,079	0	334,100
75150	CARBON DISULFIDE	137,239,693	0	43,737,000	1,836,891	0	28,472
71556	1,1,1-TRICHLOROETHANE	130,932,398	18,000	1,751,759	1,124,273	0	2,113,696
78933	METHYL ETHYL KETONE	124,626,050	0	5,656,712	2,508,546	0	593,516
1330207	XYLENE (MIXED ISOMERS)	120,120,266	27,371	2,488,047	2,066,420	0	206,297
75092	DICHLOROMETHANE	112,252,293	0	1,821,087	1,843,251	0	623,770
7782505	CHLORINE	103,423,754	490,502	2,755,049	480,419	1,861	1,861
1344281	ALUMINUM OXIDE	73,132,776	0	258,292	171,047	0	607
74851	ETHYLENE	54,199,221	0	60,206	179,000	0	0
7647010	HYDROCHLORIC ACID	50,474,094	730,000	2,358,703	39,981	0	62,516
76131	FREON 113	49,061,620	0	680,431	2,608,163	0	1,988,914
79016	TRICHLOROETHYLENE	47,509,637	0	1,781,192	549,937	0	72,000
115071	PROPYLENE	37,832,734	0	1,450	36,531	0	0
11	GLYCOL ETHERS	32,865,927	0	303,472	46,600	0	31,500
127184	TETRACHLOROETHYLENE	28,093,496	0	35,931	136,533	0	301,735
71363	N-BUTYL ALCOHOL	27,144,279	0	212,484	64,563	0	105,318
108101	METHYL ISOBUTYL KETONE	25,284,541	0	2,190,965	346,090	0	23,483
71432	BENZENE	24,895,833	26,647	528,409	13,297	0	0
100425	STYRENE	24,694,164	0	105,516	75,893	0	695,238
67663	CHLOROFORM	23,728,300	150,000	1,976,646	725,734	0	0
74873	CHLOROMETHANE	20,858,189	0	4,889	287,000	0	0
463581	CARBONYL SULFIDE	19,775,085	0	0	121,729	0	0
7664939	SULFURIC ACID	15,422,225	13,000	1,401,919	204,071	0	238,325
50000	FORMALDEHYDE	15,026,270	5,150	584,618	199,717	0	83,800
67630	ISOPROPYL ALCOHOL (MANUFACTURER)	14,363,700	0	15,238	132,755	0	142,239
107211	ETHYLENE GLYCOL	13,337,401	0	1,362,332	6,152	0	148,280
10049044	CHLORINE DIOXIDE	12,086,233	0	1,799,100	539,150	0	0
7664393	HYDROGEN FLUORIDE	11,793,228	0	48,510	0	0	4,080
110827	CYCLOHEXANE	10,621,381	17,976	46,622	2,484	0	0
106990	1,3-BUTADIENE	9,872,710	0	3,400	280	0	0
108952	PHENOL	8,513,582	0	40,871	64,400	0	288,320
6484522	AMMONIUM NITRATE (SOLUTION)	8,321,561	0	577,500	0	0	0
109864	2-METHOXYETHANOL	8,113,631	0	127	0	0	120,800
106423	P-XYLENE	7,094,911	0	2,130,926	0	0	0
7697372	NITRIC ACID	6,660,433	2	20,285	2,250	0	13,503
7429905	ALUMINUM (FUME OR DUST)	6,045,198	0	1,001	665	0	250
108054	VINYL ACETATE	5,954,126	0	39,645	0	0	0
107062	1,2-DICHLOROETHANE	5,712,143	0	526	500	0	0
1310732	SODIUM HYDROXIDE (SOLUTION)	5,484,290	750	189,648	111,866	311,720	311,720
75070	ACETALDEHYDE	5,205,755	0	82	0	0	0
100414	ETHYLBENZENE	5,008,405	13,366	163,598	26,988	0	0
75218	ETHYLENE OXIDE	4,950,571	0	0	129,070	0	19,901
7757826	SODIUM SULFATE (SOLUTION)	4,435,245	0	891,610	500	0	0
75003	CHLOROETHANE	4,400,509	0	2,228	204,500	0	0
21	TOTAL FOR MIXTURES	4,357,364	0	1,570	5,976	0	750

* Source: U.S. Environmental Protection Agency (March 1989). Reported releases for each states are displayed over six pages.

CAS NO.	CHEMICAL NAME	TOTAL	AK	AL	AR	AS	AZ
56235	CARBON TETRACHLORIDE	4,259,720	0	526,374	0	0	0
107131	ACRYLONITRILE	4,033,384	0	257,000	0	0	0
108907	CHLOROBENZENE	3,875,644	0	9,851	22,700	0	0
75569	PROPYLENE OXIDE	3,660,826	0	2,750	0	0	0
98828	CUMENE	3,501,738	10	64,208	18,000	0	0
80626	METHYL METHACRYLATE	3,275,442	0	39,292	17,100	0	0
20	ZINC COMPOUNDS	3,161,659	0	12,467	6,110	0	135,000
91203	NAPHTHALENE	3,142,805	55	112,501	9,551	0	0
7440666	ZINC (FUME OR DUST)	2,938,830	0	75,894	7,428	0	250
95476	O-XYLENE	2,880,900	0	91,896	0	0	0
75058	ACETONITRILE	2,721,212	0	400	15,900	0	0
9	COPPER COMPOUNDS	2,662,047	0	22,409	1,502	0	1,960,450
110805	2-ETHOXYETHANOL	2,581,257	0	6,140	19,395	0	0
108383	M-XYLENE	2,495,507	0	192,787	3,602	0	0
7440508	COPPER	2,397,474	0	14,033	12,376	0	657,290
95636	1,2,4-TRIMETHYLBENZENE	2,276,124	4,204	34,958	0	0	0
131113	DIMETHYL PHTHALATE	2,113,257	0	2	18,100	0	125,190
1634044	METHYL TERT-BUTYL ETHER	2,067,002	0	10,463	0	0	0
79005	1,1,2-TRICHLOROETHANE	1,690,764	0	5	0	0	0
123728	BUTYRALDEHYDE	1,671,714	0	5,100	0	0	0
13	MANGANESE COMPOUNDS	1,649,650	0	3,204	3,000	0	0
117817	DI-(2-ETHYLHEXYL) PHTHALATE	1,597,832	0	0	0	0	16,954
92524	BIPHENYL	1,523,883	0	76,232	0	0	0
75014	VINYL CHLORIDE	1,511,157	0	0	0	0	0
7664382	PHOSPHORIC ACID	1,468,915	0	35,018	5,300	0	6,351
78842	ISOBUTYRALDEHYDE	1,380,605	0	303,200	0	0	0
120821	1,2,4-TRICHLOROBENZENE	1,370,307	0	2,616	0	0	28,000
7439921	LEAD	1,154,909	0	40,239	3,065	0	43,350
126998	CHLOROPRENE	1,136,385	0	0	0	0	0
10	CYANIDE COMPOUNDS	1,094,278	0	640	750	0	813
123386	PROPIONALDEHYDE	1,053,740	0	0	0	0	0
78875	1,2-DICHLOROPROPANE	1,026,307	0	0	0	0	0
101688	METHYLENEBIS(PHENYLISOCYANATE)	990,902	0	6,182	517	0	250
3	BARIUM COMPOUNDS	964,486	0	3,153	250	0	0
12	LEAD COMPOUNDS	953,057	0	2,522	1,550	0	163,003
75650	TERT-BUTYL ALCOHOL	911,353	0	2	0	0	0
75354	VINYLDENE CHLORIDE	836,371	0	121,250	443,000	0	0
79107	ACRYLIC ACID	832,211	0	2,583	0	0	0
1319773	CRESOL (MIXED ISOMERS)	818,206	0	2,228	0	0	0
78922	SEC-BUTYL ALCOHOL	770,297	0	11,448	0	0	0
7	CHROMIUM COMPOUNDS	691,292	0	4,253	3,280	0	250
74839	BROMOMETHANE	683,998	0	131,000	103,000	0	0
96333	METHYL ACRYLATE	673,021	0	12,200	3,350	0	0
141322	BUTYL ACRYLATE	636,506	0	4,699	0	0	0
62533	ANILINE	627,170	0	8,050	700	0	0
7439965	MANGANESE	597,018	0	14,875	980	0	0
7783202	AMMONIUM SULFATE (SOLUTION)	579,686	0	7,004	0	0	0
95501	1,2-DICHLOROBENZENE	574,666	0	0	690	0	12,000

CAS NO.	CHEMICAL NAME	TOTAL	AK	AL	AR	AS	AZ
74908	HYDROGEN CYANIDE	534,942	0	11,513	0	0	0
584849	TOLUENE-2,4-DIISOCYANATE	492,666	0	810	1,000	0	0
7440020	NICKEL	489,132	0	2,428	3,912	0	0
7440473	CHROMIUM	480,332	0	4,075	6,474	0	3,060
111422	DIETHANOLAMINE	480,065	0	2,100	250	0	0
108316	MALEIC ANHYDRIDE	470,922	0	750	504	0	0
100210	TEREPHTHALIC ACID	443,325	0	41,750	0	0	0
85449	PHTHALIC ANHYDRIDE	419,751	0	56	250	0	0
51796	URETHANE	374,600	0	0	0	0	0
106467	1,4-DICHLOROBENZENE	341,189	0	0	0	0	0
123911	1,4-DIOXANE	337,514	0	18,608	0	0	0
84742	DIBUTYL PHTHALATE	328,315	0	0	500	0	0
106898	EPICHLORONYDRIN	310,580	0	13,780	1,110	0	0
110861	PYRIDINE	297,938	0	0	4,400	0	0
79469	2-NITROPROPANE	287,740	0	0	0	0	0
120809	CATECHOL	272,241	0	0	0	0	0
15	NICKEL COMPOUNDS	265,436	0	1,919	0	0	2,250
108781	MELAMINE	248,484	0	0	0	0	0
140885	ETHYL ACRYLATE	239,466	0	2,690	0	0	0
120127	ANTHRACENE	218,011	0	9,411	970	0	0
101779	4,4'-METHYENEDIAMINE	217,500	0	0	750	0	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	216,087	0	2,450	0	0	0
85687	BUTYL BENZYL PHTHALATE	213,701	0	0	0	0	0
80159	CUMENE HYDROPEROXIDE	182,527	0	0	0	0	0
84662	DIETHYL PHTHALATE	163,001	0	1	0	0	0
7550450	TITANIUM TETRACHLORIDE	162,968	0	0	0	0	0
593602	VINYL BROMIDE	162,900	0	47,000	6,700	0	0
624839	METHYL ISOCYANATE	148,181	0	0	0	0	0
5	CADMIUM COMPOUNDS	137,428	0	0	0	0	0
540590	1,2-DICHLOROETHYLENE	132,392	0	0	0	0	0
2	ARSENIC COMPOUNDS	130,742	0	2,250	750	0	41,000
7439976	MERCURY	130,579	0	2,411	0	0	0
94757	2,4-D (ACETIC ACID)	130,216	0	0	0	0	0
121697	N,N-DIMETHYLANILINE	129,799	0	56,900	0	0	0
98953	NITROBENZENE	128,419	0	0	0	0	0
91087	TOLUENE-2,6-DIISOCYANATE	126,471	0	515	0	0	0
79345	1,1,2,2-TETRACHLOROETHANE	126,289	0	0	33,000	0	0
106503	P-PHENYLENEDIAMINE	117,230	0	0	0	0	0
103231	BIS(2-ETHYLHEXYL) ADIPATE	111,602	0	4,400	0	0	0
1313275	MOLYBDENUM TRIOXIDE	109,644	0	500	0	0	0
7440439	CADMIUM	101,969	0	96	80,501	0	250
1	ANTIMONY COMPOUNDS	91,124	0	100	0	0	14,240
121142	2,4-DINITROTOLUENE	88,091	0	0	0	0	0
7440382	ARSENIC	88,089	0	505	123	0	8,770
106445	P-CRESOL	86,466	0	500	0	0	0
75445	PHOSGENE	80,519	0	559	0	0	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	79,359	0	0	0	0	0
106887	1,2-BUTYLENE OXIDE	79,264	0	0	0	0	0

VVV 000010328

CAS NO.	CHEMICAL NAME	TOTAL	AK	AL	AR	AS	AZ
25321226	DICHLOROBENZENE (MIXED ISOMERS)	71,708	0	0	0	0	0
107051	ALLYL CHLORIDE	68,217	0	0	250	0	0
7440393	BARIUM	67,828	0	0	250	0	250
98884	BENZOYL CHLORIDE	65,803	0	0	0	0	0
106934	1,2-DIBROMOETHANE	63,888	0	0	18,100	0	0
132649	DIBENZOFURAN	61,729	0	5,418	920	0	0
95487	O-CRESOL	55,855	0	0	0	0	0
8	COBALT COMPOUNDS	50,035	0	1,235	0	0	0
541731	1,3-DICHLOROBENZENE	48,893	0	0	0	0	0
55630	NITROGLYCERIN	48,746	0	0	0	0	0
1332214	ASBESTOS (FRIABLE)	48,717	0	0	500	0	0
117840	N-DIOCTYL PHTHALATE	47,970	0	0	250	0	0
7440484	COBALT	42,671	0	0	2,918	0	0
100447	BENZYL CHLORIDE	40,485	0	0	0	0	0
107028	ACROLEIN	40,399	0	275	0	0	0
74953	METHYLENE BROMIDE	38,955	0	0	0	0	0
7440360	ANTIMONY	36,722	0	278	25	0	250
12427382	MANEB	35,930	0	0	0	0	0
542756	1,3-DICHLOROPROPYLENE	33,570	0	0	0	0	0
302012	HYDRAZINE	33,345	0	325	0	0	0
88755	2-NITROPHENOL	33,149	0	0	0	0	0
51285	2,4-DINITROPHENOL	32,100	0	15,589	0	0	0
123319	HYDROQUINONE	31,023	0	0	0	0	0
79118	CHLOROACETIC ACID	29,893	0	284	0	0	0
1163195	DECABROMODIPHENYL OXIDE	27,191	0	0	15,750	0	0
133062	CAPTAN	26,615	0	0	0	0	0
91225	QUINOLINE	26,481	0	1,274	0	0	0
74884	METHYL IODIDE	26,151	0	0	0	0	0
98077	BENZOIC TRICHLORIDE	26,010	0	0	0	0	0
95534	O-TOLUIDINE	23,204	0	0	0	0	0
87865	PENTACHLOROPHENOL	23,109	0	1,753	0	0	0
606202	2,6-DINITROTOLUENE	22,222	0	0	0	0	0
1897456	CHLOROTHALOMIL	21,081	0	0	500	0	0
108394	M-CRESOL	20,568	0	0	0	0	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	18,173	0	0	0	0	0
64675	DIETHYL SULFATE	15,698	0	250	0	0	0
75274	DICHLOROBROMOMETHANE	14,850	0	0	0	0	0
17	SELENIUM COMPOUNDS	14,061	0	0	0	0	0
156627	CALCIUM CYANAMIDE	12,750	0	0	0	0	0
18	SILVER COMPOUNDS	11,503	0	500	0	0	0
7440224	SILVER	11,362	0	0	0	0	250
7723140	PHOSPHORUS (YELLOW OR WHITE)	11,306	0	500	1,000	0	0
77781	DIMETHYL SULFATE	10,817	0	0	0	0	0
79061	ACRYLAMIDE	10,789	0	504	0	0	0
541413	ETHYL CHLOROFORMATE	10,634	0	0	0	0	0
52686	TRICHLORFON	9,718	0	0	0	0	0
92875	BENZIDINE	9,300	0	0	0	0	0
79210	PERACETIC ACID	8,752	0	0	0	0	0

CAS NO.	CHEMICAL NAME	TOTAL	AK	AL	AR	AS	AZ
7440622	AMADIIUM (FINE OR DUST)	8,635	0	0	365	0	0
76448	HEPTACHLOR	7,286	0	0	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	6,877	0	0	0	0	0
63252	CARBARYL	6,443	0	0	0	0	0
62566	THIOUREA	6,270	0	500	0	0	0
94360	BENZDYL PEROXIDE	5,850	0	0	0	0	0
67721	HEXACHLOROETHANE	5,459	0	0	0	0	0
7782492	SELENIUM	5,022	0	0	0	0	500
100027	4-NITROPHENOL	4,952	0	500	0	0	0
98873	BENZAL CHLORIDE	4,890	0	0	0	0	0
7440417	BERYLLIUM	4,447	0	0	0	0	0
72435	METHOXYCHLOR	3,852	0	0	0	0	0
90040	O-ANISIDINE	3,603	0	0	0	0	0
87683	HEXACHLORO-1,3-BUTADIENE	3,580	0	0	0	0	0
177817	(invalid no. should be 117817)	3,171	0	0	250	0	0
77474	HEXACHLOROCYCLOPENTADIENE	3,071	0	0	0	0	0
1582098	TRIFLURALIN	2,849	0	0	500	0	0
95807	2,4-DIAMINOTOLUENE	2,667	0	0	0	0	0
57749	CHLORDANE	2,614	0	0	0	0	0
120718	P-CRESIDINE	2,528	0	0	0	0	0
90437	2-PHENYLPHENOL	2,501	0	0	0	0	0
14	MERCURY COMPOUNDS	2,368	0	0	0	0	0
120832	2,4-DICHLOROPHENOL	2,321	0	0	250	0	0
2164172	FLUMETURON	2,111	0	0	0	0	0
60355	ACETANIDE	1,992	0	0	0	0	0
118741	HEXACHLOROBENZENE	1,804	0	0	0	0	0
139139	NITRILOTRIACETIC ACID	1,752	0	500	0	0	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	1,541	0	0	0	0	0
105679	2,4-DIMETHYLPHENOL	1,432	0	56	0	0	0
1314201	THORIUM DIOXIDE	1,330	0	0	0	0	0
96093	STYRENE OXIDE	1,083	0	0	0	0	0
107302	CHLOROMETHYL METHYL ETHER	1,069	0	0	0	0	0
534521	4,6-DINITRO-O-CRESOL	1,066	0	0	0	0	0
106514	QUINONE	1,053	0	0	0	0	0
91941	3,3'-DICHLOROBENZIDINE	1,007	0	0	0	0	0
57147	1,1-DIMETHYL HYDRAZINE	1,000	0	0	0	0	0
6	CHLOROPHENOLS	933	0	0	0	0	0
135206	CUPFERON	920	0	0	0	0	0
134327	ALPHA-NAPHTHYLAMINE	890	0	0	0	0	0
56382	PARATHION	858	0	0	0	0	0
88891	PICRIC ACID	750	0	0	0	0	0
81072	SACCHARIN (MANUFACTURING)	750	0	0	0	0	0
62737	DICHLORVOS	741	0	0	0	0	0
58899	LINDANE	561	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	560	0	0	0	0	0
60344	METHYL HYDRAZINE	523	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB)	514	0	0	0	0	0
4	BERYLLIUM COMPOUNDS	502	0	0	0	0	0

CAS NO.	CHEMICAL NAME	TOTAL	AK	AL	AR	AS	AZ
95954	2,4,5-TRICHLOROPHENOL	500	0	0	0	0	0
39156417	2,4-DIAMINOAMISOLE SULFATE	500	0	0	0	0	0
133904	CHLORAMBN	500	0	0	0	0	0
75558	PROPYLENEIMINE	500	0	0	0	0	0
94597	SAFROLE	500	0	0	0	0	0
90948	HICKLER'S KETONE	400	0	0	0	0	0
101164	4,4'-METHYLENEBIS(2-CHLORO ANI	300	0	0	0	0	0
510156	CHLOROBENZILATE	269	0	250	0	0	0
82688	QUINCYZENE	253	0	0	0	0	0
532274	2-CHLOROACETOPHENONE	250	0	0	0	0	0
156105	P-NITROSODIPHENYLAMINE	250	0	250	0	0	0
19	THALLIUM COMPOUNDS	250	0	0	0	0	0
114261	PROPOXUR	48	0	0	0	0	0
842079	C.I. SOLVENT YELLOW 14	4	0	0	0	0	0
569642	C.I. BASIC GREEN 4	2	0	0	0	0	0
92671	4-AMINOBIPHENYL	1	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	1	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0
615054	2,4-DIAMINOAMISOLE	0	0	0	0	0	0
87627	2,6-XYLIDINE	0					
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0
96457	ETHYLENE THIOUREA	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0
51752	NITROGEN MUSTARD	0					
86306	N-NITROSODIPHENYLAMINE	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0
1120714	PROPANE SULFONE	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0
12122677	ZINES	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	CA	CO	CT	DE	FL	GA	HI
108883	TOLUENE	3,790,808	508,211	1,609,997	154,804	1,529,298	6,466,508	97,000
7664417	AMMONIA	7,247,211	62,889	357,832	169,544	15,460,050	2,916,354	246,250
67641	ACETONE	4,446,971	633,609	560,963	94,120	2,820,037	6,403,740	0
67561	METHANOL	1,524,264	682,922	972,490	75,375	1,904,633	33,291,267	750
75150	CARBON DISULFIDE	86,461	0	212,890	33,000	32	3,870	0
71556	1,1,1-TRICHLOROETHANE	15,427,734	1,131,444	9,589,974	151,100	1,576,955	1,774,080	38,120
78933	METHYL ETHYL KETONE	4,246,644	528,685	722,496	182,377	485,822	2,598,250	0
1330207	XYLENE (MIXED ISOMERS)	2,447,652	188,859	386,520	219,867	698,841	3,185,042	50,000
75092	DICHLOROMETHANE	4,789,582	412,841	2,003,848	77,021	1,058,775	4,640,973	0
7782505	CHLORINE	714,060	48,634	2,765	59,570	461,041	4,616,095	500
1344281	ALUMINUM OXIDE	1,313,785	171,380	15,288	240,000	173,983	64,486	150,250
74851	ETHYLENE	155,514	49,330	0	0	0	0	3,050
7647010	HYDROCHLORIC ACID	1,073,383	26,528	58,156	31,098	45,155	10,912,617	250
76131	FREON 113	5,723,839	934,194	1,382,502	0	2,607,349	455,114	0
79016	TRICHLOROETHYLENE	35,059	7,361	391,897	1,180	549,007	2,625,425	0
115071	PROPYLENE	456,617	107,000	0	2,700	500	102,550	34,000
11	GLYCOL ETHERS	1,093,676	524,488	71,551	196,750	160,226	963,849	61,445
127184	TETRACHLOROETHYLENE	5,852,650	398,500	2,885,829	113,180	26,198	276,490	0
71363	N-BUTYL ALCOHOL	1,303,314	260,259	177,205	0	417,375	604,684	60,325
108101	METHYL ISOBUTYL KETONE	491,757	69,236	173,074	212,000	38,854	2,551,739	0
71432	BENZENE	139,172	49,965	23,300	41,519	415	867,851	40,100
100425	STYRENE	1,476,340	6,982	29,477	70,035	1,541,751	490,713	0
67863	CHLOROFORM	573,864	0	0	0	178,500	1,543,082	0
74873	CHLOROMETHANE	451,000	6,200	344,000	0	0	39,160	0
443581	CARBONYL SULFIDE	26,735	0	0	320,000	0	0	0
7664939	SULFURIC ACID	347,001	4,073	84,557	24,245	927,454	834,946	14,750
50000	FORMALDEHYDE	466,601	160,607	80,905	5,103	6,800	282,077	0
67630	ISOPROPYL ALCOHOL (MANUFACTURER)	798,264	257,320	252,935	0	60,293	274,035	0
107211	ETHYLENE GLYCOL	118,049	29,725	102,906	750	41,252	40,120	0
10049044	CHLORINE DIOXIDE	394,250	0	0	0	347,938	1,814,668	0
7664393	HYDROGEN FLUORIDE	59,034	361	7,593	2,940	35,176	1,500	0
110827	CYCLOHEXANE	448,020	5,910	0	2,460	1,026,520	27,700	32,900
106990	1,3-BUTADIENE	7,560	1,050	41,300	102,336	0	636,453	500
108952	PHENOL	399,020	0	41,970	12,213	48,144	84,740	0
6484522	AMMONIUM NITRATE (SOLUTION)	6,750	529,200	0	0	188,000	206,072	0
109864	2-METHOXYETHANOL	194,374	3,150	0	1,388	723	0	0
106423	P-XYLENE	59,149	742	0	0	0	0	8,800
7697372	NITRIC ACID	613,795	52,667	79,119	1	12,303	221,550	0
7429905	ALUMINUM (FUME OR DUST)	108,089	869,000	1,000	0	0	50,104	0
108054	VINYL ACETATE	93,607	0	500	8,278	0	12,871	0
107062	1,2-DICHLOROETHANE	1,852	12,000	15,200	0	0	3,440	500
1310732	SODIUM HYDROXIDE (SOLUTION)	733,314	4,411	38,735	2,801	31,987	187,593	250
75070	ACETALDEHYDE	0	0	1,780	0	0	0	0
100414	ETHYLBENZENE	94,563	2,936	5,110	5,100	37,634	61,029	16,200
75218	ETHYLENE OXIDE	158,799	763	57,998	69,000	27,915	137,157	0
7757826	SODIUM SULFATE (SOLUTION)	23,873	513	250	0	0	547,650	0
75003	CHLOROETHANE	128,000	0	563,148	0	0	0	0
21	TOTAL FOR MIXTURES	327,654	67,200	5,500	0	13,001	20,554	0

CAS NO.	CHEMICAL NAME	CA	CD	CT	OE	FL	GA	HI
56235	CARBON TETRACHLORIDE	54,555	500	263	157,800	0	11,500	0
107131	ACRYLONITRILE	1,698	0	8,206	40,536	107,891	19	0
108907	CHLOROBENZENE	490	0	1,000	16,140	2	0	0
75569	PROPYLENE OXIDE	689,770	0	68,092	4,680	250	12,554	0
98828	CUMENE	18,416	500	0	0	0	36,040	0
80626	METHYL METHACRYLATE	161,398	0	158,804	4,425	5,364	3,319	0
20	ZINC COMPOUNDS	24,937	724	10,035	0	48,411	9,993	0
91203	NAPHTHALENE	164,206	5,020	2,000	76,000	900	28,728	6,950
7440666	ZINC (FUME OR DUST)	18,986	24,430	12,476	0	7,887	57,607	0
95476	O-XYLENE	69,537	623	0	0	0	0	20,800
75058	ACETONITRILE	250	0	398	0	0	0	0
9	COPPER COMPOUNDS	18,462	1,000	18,321	0	2,123	7,750	0
110805	2-ETHOXYETHANOL	26,990	0	0	0	0	8,525	0
108383	M-XYLENE	75,380	1,258	0	0	22,494	0	34,000
7440508	COPPER	31,755	798	6,518	0	4,485	10,029	864
95636	1,2,4-TRIMETHYLBENZENE	70,588	31,118	0	20,270	3,360	19,000	27,900
131113	DIMETHYL PHTHALATE	12	0	0	0	336,234	0	0
1634044	METHYL TERT-BUTYL ETHER	10,034	4,370	0	0	0	0	4,200
79005	1,1,2-TRICHLOROETHANE	7,321	0	0	0	0	9,800	0
123728	BUTYRALDEHYDE	0	0	0	0	0	0	0
13	MANGANESE COMPOUNDS	2,763	527	19,750	2,500	6,990	1,291	0
117817	DI-(2-ETHYLHEXYL) PHTHALATE	36,810	0	1,700	250	250	71,601	0
92524	BIPHENYL	0	500	0	16,700	32,052	353,506	0
75014	VINYL CHLORIDE	932	0	0	68,803	6,000	72,044	0
7664382	PHOSPHORIC ACID	70,856	3,998	5,803	0	7,199	45,430	0
78842	ISOBUTYRALDEHYDE	0	0	0	0	5,300	0	0
120821	1,2,4-TRICHLOROBENZENE	500	0	0	17,357	18,900	74,677	0
7439921	LEAD	68,466	3,294	2,840	0	3,606	46,371	500
126998	CHLOROPRENE	0	0	0	0	500	0	0
10	CYANIDE COMPOUNDS	3,575	0	5,391	0	0	1,190	0
123386	PROPIONALDEHYDE	0	0	0	0	0	0	0
78875	1,2-DICHLOROPROPANE	0	0	0	0	0	0	0
101688	METHYLENEBIS(PHENYLISOCYANATE)	960	1,250	13	0	0	4,645	0
3	BARIUM COMPOUNDS	7,816	250	1,342	500	250	9,703	0
12	LEAD COMPOUNDS	23,739	1,385	3,001	2,868	8,419	7,143	0
75650	TERT-BUTYL ALCOHOL	10	0	0	0	0	28,500	0
75354	VINYLDENE CHLORIDE	850	0	0	0	0	0	0
79107	ACRYLIC ACID	1,297	0	3,625	1,085	26,007	3,603	0
1319773	CRESOL (MIXED ISOMERS)	500	0	0	0	3,600	8,636	0
78922	SEC-BUTYL ALCOHOL	126,711	0	0	0	10,520	10,069	0
7	CHROMIUM COMPOUNDS	39,619	250	4,920	0	2,250	4,420	0
74839	BROMOMETHANE	0	0	0	0	1,850	72,900	0
96333	METHYL ACRYLATE	0	0	3,078	0	0	1,267	0
141322	BUTYL ACRYLATE	21,737	0	1,000	1,999	101,395	8,498	0
62533	ANILINE	0	0	12,250	500	0	0	0
7439965	MANGANESE	2,375	8,275	2,773	0	2,039	5,500	0
7783202	AMMONIUM SULFATE (SOLUTION)	22,976	250	250	0	0	265,810	0
95501	1,2-DICHLOROBENZENE	8,903	0	0	10,864	0	0	0

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CAS NO.	CHEMICAL NAME	CA	CO	CT	DE	FL	GA	HI
74908	HYDROGEN CYANIDE	0	0	0	0	0	0	0
584849	TOLUENE-2,4-DIISOCYANATE	102,032	500	500	1	909	31,306	4,700
7440020	NICKEL	11,052	776	5,899	5,350	250	1,050	0
7440473	CHROMIUM	11,069	402	1,501	0	1,000	1,500	29
111422	DIETHANOLAMINE	3,618	250	0	0	37	1,694	0
108316	MALEIC ANHYDRIDE	112,402	0	2,000	0	16,280	1,285	0
100210	TEREPHTHALIC ACID	250	0	500	0	0	500	0
85449	PHTHALIC ANHYDRIDE	14,075	0	500	0	10,461	2,250	0
51796	URETHANE	250	0	0	0	0	0	0
106467	1,4-DICHLOROBENZENE	0	0	0	15,160	0	94	0
123911	1,4-DIOXANE	27,451	0	500	0	0	0	0
84742	DIBUTYL PHTHALATE	832	2,000	0	7	2,807	1,360	0
106898	EPICHLOROHYDRIN	350	0	0	8,300	0	17,378	0
110861	PYRIDINE	0	0	0	0	0	0	0
79469	2-NITROPROPANE	2	0	0	0	0	0	0
120809	CATECHOL	0	0	0	0	0	0	0
15	NICKEL COMPOUNDS	6,807	0	36,615	0	751	500	0
108781	MELAMINE	7,186	0	6,201	0	0	0	0
140885	ETHYL ACRYLATE	1,735	0	1,500	3,062	0	1,382	0
120127	ANTHRACENE	76	180	0	0	42	1,523	0
101779	4,4'-METHYENEDIANILINE	3	0	500	0	0	0	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	440	0	0	2,600	84	1,000	0
85687	BUTYL BENZYL PHTHALATE	9,700	0	0	0	0	7,617	0
30159	CUMENE HYDROPEROXIDE	77	0	0	0	0	0	0
84662	DIETHYL PHTHALATE	4	0	17,000	0	0	0	0
7550450	TITANIUM TETRACHLORIDE	10,100	0	0	11,800	0	7,000	0
593602	VINYL BROMIDE	0	0	0	0	0	0	0
624839	METHYL ISOCYANATE	0	0	0	0	0	0	0
5	CADMIUM COMPOUNDS	0	0	323	0	250	0	0
540590	1,2-DICHLOROETHYLENE	250	0	0	0	0	0	0
2	ARSENIC COMPOUNDS	7,452	0	0	0	750	2,500	0
7439976	MERCURY	0	0	0	750	0	1,054	0
94757	2,4-D (ACETIC ACID)	125,046	0	0	0	0	548	0
121697	N,N-DIMETHYLANILINE	0	0	1,722	0	0	0	0
98953	NITROBENZENE	0	0	1,000	0	0	0	0
91087	TOLUENE-2,6-DIISOCYANATE	2,526	500	0	0	540	1,521	250
79345	1,1,2,2-TETRACHLOROETHANE	22,377	0	0	0	0	0	0
106503	P-PHENYLENEDIAMINE	0	0	0	0	0	0	0
103231	BIS(2-ETHYLHEXYL) ADIPATE	17,113	0	0	0	0	500	0
1313275	MOLYBDENUM TRIOXIDE	750	250	0	0	0	0	0
7440439	CADMIUM	501	898	0	0	0	500	0
1	ANTIMONY COMPOUNDS	1,182	0	502	0	130	750	0
121142	2,4-DINITROTOLUENE	0	0	0	0	15	0	0
7440382	ARSENIC	585	0	0	0	1	250	145
106445	P-CRESOL	47,250	0	3,915	0	0	0	0
75445	PHOSGENE	0	0	250	0	0	0	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	0	0	0	0	0	0
106887	1,2-BUTYLENE OXIDE	0	0	0	0	0	0	0

CAS NO.	CHEMICAL NAME	CA	CO	CT	DE	FL	GA	HI
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	0	0	0	0	0	0
107051	ALLYL CHLORIDE	0	0	0	0	0	48,829	0
7440393	BARIUM	8,181	0	250	0	0	510	0
98884	BENZOYL CHLORIDE	12	0	0	0	0	250	0
106934	1,2-DIBROMOETHANE	1,918	0	0	0	0	0	500
132649	DIBENZOFURAN	111	200	0	0	0	1,659	0
95487	O-CRESOL	310	0	0	220	0	5	0
8	COBALT COMPOUNDS	500	0	84	0	0	500	0
541731	1,3-DICHLOROBENZENE	0	0	0	9,593	0	0	0
55630	NITROGLYCERIN	0	3,540	0	0	0	0	0
1332214	ASBESTOS (FRIABLE)	2,380	0	550	0	250	0	0
117840	N-DIOCTYL PHTHALATE	250	250	0	0	0	571	0
7440484	COBALT	1,250	0	613	0	0	500	0
100447	BENZYL CHLORIDE	0	0	0	0	0	443	0
107028	ACROLEIN	0	0	0	0	0	0	0
74953	METHYLENE BROMIDE	250	0	0	0	0	0	0
7440360	ANTIMONY	1,761	500	0	3	250	352	0
12627382	MANEB	0	0	0	0	90	500	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	0	0	0	1,000
302012	HYDRAZINE	500	0	600	0	1,095	250	0
88755	2-NITROPHENOL	0	0	0	0	0	0	0
51285	2,4-DINITROPHENOL	0	0	0	0	0	0	0
123319	HYDROQUINONE	0	0	0	0	500	0	0
79118	CHLOROACETIC ACID	250	0	0	0	0	0	0
1163195	DECA-BROMODIPHENYL OXIDE	1,000	0	0	0	250	0	0
133062	CAPTAN	57	0	0	0	80	750	0
91225	QUINOLINE	116	0	0	0	0	0	0
74884	METHYL IODIDE	0	0	0	0	0	0	0
98077	BENZOIC TRICHLORIDE	0	0	0	0	0	0	0
95534	O-TOLUIDINE	0	0	0	0	0	0	0
87865	PENTACHLOROPHENOL	1,918	0	0	0	192	3,054	0
606202	2,6-DINITROTOLUENE	0	0	0	0	0	0	0
1897456	CHLOROTHALONIL	0	0	0	0	0	39	0
108394	M-CRESOL	3,240	0	0	0	0	500	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	0	0	0	0	0
64675	DIETHYL SULFATE	0	0	0	0	0	0	0
75274	DICHLOROBROMOMETHANE	3,650	0	0	0	0	0	0
17	SELENIUM COMPOUNDS	9,159	0	0	0	0	0	0
156627	CALCIUM CYANAMIDE	0	0	0	0	0	0	0
18	SILVER COMPOUNDS	0	0	47	0	0	1	0
7440224	SILVER	250	0	0	0	0	0	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	0	0	0	0	0	0	0
77781	DIMETHYL SULFATE	1,433	0	0	0	0	0	0
79061	ACRYLAMIDE	1,537	0	500	0	5	570	0
541413	ETHYL CHLOROFORMATE	0	0	0	0	0	0	0
52686	TRICHLORFON	0	0	0	0	0	0	0
92875	BENZIDINE	0	0	0	0	0	0	0
79210	PERACETIC ACID	0	0	0	0	0	0	0

CAS NO.	CHEMICAL NAME	CA	CO	CT	DE	FL	GA	HI
7440622	VANADIUM (FUME OR DUST)	300	0	0	0	0	0	0
76648	HEPTACHLOR	0	0	0	0	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	0	0	0	0	0	0	0
63252	CARBARYL	6	0	0	0	465	250	0
62566	THIOUREA	1,020	0	0	0	0	0	0
94360	BENZOTYL PEROXIDE	0	0	0	0	0	0	0
67721	HEXACHLOROETHANE	76	0	0	0	250	0	0
7782492	SELENIUM	0	0	0	0	0	250	0
100027	4-NITROPHENOL	0	0	0	0	0	0	0
98873	BENZAL CHLORIDE	0	0	0	0	0	0	0
7440417	BERYLLIUM	500	0	0	0	0	0	0
72435	METHOXYCHLOR	0	0	0	0	0	251	0
90040	O-ANISIDINE	0	0	0	0	0	0	0
87683	HEXACHLORO-1,3-BUTADIENE	0	0	0	0	0	0	0
177817	(Invalid no. should be 117817)	2,921	0	0	0	0	0	0
77474	HEXACHLOROCYCLOPENTADIENE	0	0	0	0	0	0	0
1582098	TRIFLURALIN	0	0	0	0	0	500	0
95807	2,4-DIAMINOTOLUENE	0	0	0	0	0	0	0
57749	CHLORDANE	0	0	0	0	0	0	0
120718	P-CRESIDINE	0	0	0	0	0	0	0
90437	2-PHENYLPHENOL	1	0	0	0	0	0	0
14	MERCURY COMPOUNDS	0	0	0	0	0	0	0
120832	2,4-DICHLOROPHENOL	0	0	0	0	0	0	0
2164172	FLUOMETURON	0	0	0	0	0	500	0
60355	ACETAMIDE	0	0	0	0	0	0	0
118741	HEXACHLOROBENZENE	4	0	0	0	0	0	0
139139	NITRILOTRIACETIC ACID	250	0	0	0	0	251	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	0	0	0	0	0	0	0
105679	2,4-DIMETHYLPHENOL	0	0	0	0	0	0	0
1314201	THORIUM DIOXIDE	0	0	0	0	0	0	0
96093	STYRENE OXIDE	0	0	0	0	0	60	0
107302	CHLOROMETHYL METHYL ETHER	0	0	0	0	0	0	0
534521	4,6-DINITRO-O-CRESOL	33	0	0	0	0	0	0
106514	QUINONE	0	0	0	0	0	0	0
91941	3,3'-DICHLOROBENZIDINE	0	0	0	0	0	0	0
57147	1,1-DIMETHYL HYDRAZINE	1,000	0	0	0	0	0	0
6	CHLOROPHENOLS	0	0	0	0	0	0	0
135206	CUPFERRON	0	0	0	0	0	0	0
134327	ALPHA-NAPHTHYLAMINE	0	0	0	0	0	0	0
56382	PARATHION	106	0	0	0	0	2	0
88891	PICRIC ACID	0	0	0	0	0	0	0
81072	SACCHARIN (MANUFACTURING)	0	0	0	0	0	0	0
62737	DICHLORVOS	0	0	0	0	0	0	0
58899	LINDANE	250	0	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	0	0	0	0	0	0	0
60344	METHYL HYDRAZINE	523	0	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB	0	0	0	0	0	0	0
4	BERYLLIUM COMPOUNDS	0	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	CA	CO	CT	DE	FL	GA	HI
95954	2,4,5-TRICHLOROPHENOL	0	0	0	0	0	0	0
39156417	2,4-DIAMINODIAMISOLE SULFATE	0	0	0	0	0	0	0
133904	CHLORAMPHEN	0	0	0	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	0	0
94397	SAFROLE	0	0	0	0	0	0	0
90948	NICHLER'S KETONE	0	0	0	0	0	0	0
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	0	0	0	0	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	19	0
82688	QUINTOZENE	0	0	0	0	0	3	0
532274	2-CHLOROACETOPHENONE	0	0	0	0	0	0	0
156105	P-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	0	0
114261	PROPODUR	0	0	0	0	0	0	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0	0
569642	C.I. BASIC GREEN 4	0	0	0	0	0	0	0
92671	4-AMINOBIIPHENYL	0	0	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0	0
615054	2,4-DIAMINODIAMISOLE	0	0	0	0	0	0	0
87627	2,6-XYLIDINE	0	0	0	0	0	0	0
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0	0
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0	0
96457	ETHYLENE TRICUREA	0	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0	0
51752	NITROGEN MUSTARD	0	0	0	0	0	0	0
86306	N-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0	0
1120714	PROPANE SULTONE	0	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0	0
7640280	THALLIUM	0	0	0	0	0	0	0
12122677	ZINEB	0	0	0	0	0	0	0

CAS NO.	CHEMICAL NAME	IA	ID	IL	IN	KS	KY	LA
108883	TOLUENE	8,187,413	0	13,699,384	13,676,384	2,199,912	6,974,130	4,804,860
7664417	AMMONIA	6,357,195	913,638	2,434,110	2,434,110	4,076,530	757,456	70,230,633
67641	ACETONE	1,598,640	56,145	9,751,130	9,994,912	1,017,285	1,929,742	890,835
67561	METHANOL	2,150,655	110,000	2,877,468	2,838,442	1,055,838	1,484,611	9,181,493
75150	CARBON DISULFIDE	0	0	3,564,075	3,564,075	1,561,509	403	4,485,591
71556	1,1,1-TRICHLOROETHANE	2,722,532	90,020	7,557,741	7,557,491	494,574	2,425,619	530,933
78933	METHYL ETHYL KETONE	2,857,156	1,545	6,934,477	6,930,997	1,712,531	921,780	2,954,850
1330207	XYLENE (MIXED ISOMERS)	3,069,578	1,000	7,533,394	7,528,994	1,881,962	4,809,456	1,611,133
75092	DICHLOROMETHANE	942,081	0	10,573,510	10,245,216	345,382	1,042,690	342,356
7782505	CHLORINE	478,740	93,255	809,437	809,192	41,340	266,499	1,458,273
1344281	ALUMINUM OXIDE	48,860	0	3,478,563	3,478,813	1,140,700	6,907,546	3,476,825
74851	ETHYLENE	1,560,000	0	134,700	133,950	308,065	1,296,946	6,372,413
7647010	HYDROCHLORIC ACID	56,189	2,010	793,354	793,104	174,854	1,852,538	990,672
76131	FREON 113	564,402	166,500	1,232,516	1,226,181	232,416	538,393	528,938
79016	TRICHLOROETHYLENE	247,403	11,000	5,917,501	5,946,667	3,152,073	494,026	476,417
115071	PROPYLENE	284,190	0	128,230	126,990	418,920	147,609	4,209,745
11	GLYCOL ETHERS	399,885	0	1,847,836	1,512,161	69,150	1,671,178	446,626
127184	TETRACHLOROETHYLENE	2,745,320	71,956	2,527,187	2,508,285	191,510	603,384	425,349
71363	N-BUTYL ALCOHOL	323,400	0	1,050,758	1,049,889	37,647	942,648	233,436
108101	METHYL ISOBUTYL KETONE	250,033	0	1,328,239	1,327,936	14,952	117,260	329,522
71432	BENZENE	57,000	0	1,935,538	1,935,288	421,885	952,131	1,109,353
100425	STYRENE	41,524	26,000	689,958	872,592	140,318	459,702	674,636
67663	CHLOROFORM	0	710,000	15,500	15,500	103,452	402,598	647,038
74873	CHLOROMETHANE	0	0	6,669,500	6,669,250	510,687	581,100	793,954
463581	CARBONYL SULFIDE	0	0	0	0	132,055	0	2,113,656
7664939	SULFURIC ACID	77,067	206,588	255,465	255,465	12,419	106,377	1,154,518
50000	FORMALDEHYDE	23,485	83,531	387,816	379,186	93,351	346,519	145,720
67630	ISOPROPYL ALCOHOL (MANUFACTUR)	224,020	15,200	540,607	542,359	206,015	190,142	124,958
107211	ETHYLENE GLYCOL	57,640	1,039	40,108	39,873	4,763	65,619	1,455,416
10049044	CHLORINE DIOXIDE	0	590,700	0	0	0	228,084	172,500
7564393	HYDROGEN FLUORIDE	1,250	103,500	1,536,750	1,537,250	83,857	652,733	496,387
110827	CYCLOHEXANE	0	0	139,144	139,144	251,400	21,030	170,915
106990	1,3-BUTADIENE	175,000	0	47,129	42,110	200	311,514	452,238
108952	PHENOL	102,614	0	581,590	576,585	449,252	57,633	86,836
6484522	AMMONIUM NITRATE (SOLUTION)	38,970	0	0	0	1,000	0	130,000
109864	2-METHOXYETHANOL	0	0	1,848	0	0	250	5,527
106423	P-XYLENE	0	0	34,636	0	0	0	154,835
7597372	NITRIC ACID	56,910	500	76,639	76,639	4,830	84,396	182,803
7429905	ALUMINUM (FUME OR DUST)	1,530	0	1,205,613	1,192,667	2,216	251,431	120
108054	VINYL ACETATE	36,000	0	4,934	866	14,398	90,700	217,030
107062	1,2-DICHLOROETHANE	0	0	179,500	179,500	3,776	344,692	2,261,356
1310732	SODIUM HYDROXIDE (SOLUTION)	57,007	50,000	43,095	43,095	1,266	117,059	239,287
75070	ACETALDEHYDE	0	0	0	34,006	500	0	458,237
100414	ETHYLBENZENE	0	0	76,690	111,292	343,640	184,733	316,150
75218	ETHYLENE OXIDE	1,250	500	29,354	63,977	0	49,327	763,251
7757826	SODIUM SULFATE (SOLUTION)	250	270,000	1,779	1,779	250	2,031	0
75003	CHLOROETHANE	0	0	560,000	0	8,142	2,311	219,706
21	TOTAL FOR MIXTURES	5,000	0	394,395	841,706	0	4,744	60,389

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CAS NO.	CHEMICAL NAME	IA	ID	IL	IM	KS	KY	LA
56235	CARBON TETRACHLORIDE	0	0	250	250	404,488	55,721	549,143
107131	ACRYLONITRILE	0	0	500	0	4,850	121,382	232,000
108907	CHLOROBENZENE	0	0	74,000	0	0	1,546	424,928
75569	PROPYLENE OXIDE	250	0	86,179	150,157	100	87,088	119,025
98828	CUMENE	0	0	152,760	113,750	380,500	46,000	264,470
80626	METHYL METHACRYLATE	406	0	1,473	0	3,067	220,851	164,066
20	ZINC COMPOUNDS	1,963	352,000	222,763	147,282	15,404	40,669	3,511
91203	NAPHTHALENE	1,000	0	116,470	116,400	62,005	95,016	101,484
7440666	ZINC (FUME OR DUST)	6,497	0	2,776	2,776	2,000	49,119	373,409
95476	O-XYLENE	0	0	1,000	0	8,198	0	246,672
75058	ACETONITRILE	0	0	862,925	862,925	0	35	90,750
9	COPPER COMPOUNDS	33,004	3,500	6,637	146,320	501	2,762	1,001
110805	2-ETHOXYETHANOL	0	0	151,000	150,750	0	15,828	0
108383	M-XYLENE	0	0	2,058	0	28,375	217,493	150,721
7440508	COPPER	2,799	0	34,726	34,726	607	4,720	25
95636	1,2,4-TRIMETHYLBENZENE	0	0	63,750	81,650	180,500	21,800	330,411
131113	DIMETHYL PHTHALATE	0	0	59	0	0	0	126,982
1634044	METHYL TERT-BUTYL ETHER	0	0	18,550	26,000	7,700	0	211,104
79005	1,1,2-TRICHLOROETHANE	144,200	0	7,491	1,000	0	5,393	141,892
123728	BUTYRALDEHYDE	0	0	0	0	0	0	0
13	MANGANESE COMPOUNDS	14,066	1,000	2,013	893,700	313	48,500	96
117817	DI-(2-ETHYLHEXYL) PHTHALATE	500	0	110,338	110,338	0	79,500	0
92524	BIPHENYL	0	0	560	250	500	1,106	36,428
75014	VINYL CHLORIDE	250	0	65,502	0	62	90,494	298,610
7664382	PHOSPHORIC ACID	9,930	163	105,061	105,132	101,664	166,560	16,527
78842	ISOBUTYRALDEHYDE	0	0	48,650	45,200	0	0	0
120821	1,2,4-TRICHLOROBENZENE	0	0	0	0	0	10	256
7439921	LEAD	2,609	250	54,033	53,326	2,897	13,695	38,209
126998	CHLOROPRENE	35,000	0	0	0	0	625,088	227,753
10	CYANIDE COMPOUNDS	0	250	41,185	79,455	0	3,623	0
123386	PROPIONALDEHYDE	0	0	27,183	9,383	0	998	35,890
78875	1,2-DICHLOROPROPANE	0	0	0	0	0	0	266,900
101688	METHYLENEBIS(PHENYLISOCYANATE)	31,750	250	158,658	155,016	1,000	251	504
3	BARIUM COMPOUNDS	250	500	2,064	8,908	250	4,502	52,160
12	LEAD COMPOUNDS	5,328	7,550	7,457	94,852	5,263	21,180	67,554
75650	TERT-BUTYL ALCOHOL	0	0	15,129	4,513	0	750	1,180
75354	VINYLDENE CHLORIDE	0	0	8,700	0	166	33,280	135,000
79107	ACRYLIC ACID	16,000	0	250	0	14	2,068	5,860
1319773	CRESOL (MIXED ISOMERS)	0	0	215,751	199,751	1,201	0	26,990
78922	SEC-BUTYL ALCOHOL	0	0	1,500	1,000	0	33,140	307,260
7	CHROMIUM COMPOUNDS	1,850	7,500	30,164	18,040	12,026	7,021	39,973
74839	BROMOMETHANE	0	0	0	0	0	0	0
96333	METHYL ACRYLATE	0	0	500	0	0	15,432	4,860
141322	BUTYL ACRYLATE	500	0	7,389	72	1,990	97,157	22,377
62533	ANILINE	0	0	27,708	0	7,950	0	25,635
7439965	MANGANESE	11,001	0	5,726	9,549	250	11,376	5,131
7783202	AMMONIUM SULFATE (SOLUTION)	0	0	0	0	0	0	0
95501	1,2-DICHLOROBENZENE	0	0	290,250	250	0	0	17,756

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CAS NO.	CHEMICAL NAME	IA	ID	IL	IN	KS	KY	LA
74908	HYDROGEN CYANIDE	0	0	29	29	0	640	16,028
584849	TOLUENE-2,4-DIISOCYANATE	0	0	4,237	3,737	750	1,750	634
7440020	NICKEL	5,500	0	145,460	145,466	250	3,242	3,350
7440473	CHROMIUM	8,151	0	15,075	15,075	600	3,726	70,965
111422	DIETHANOLAMINE	500	0	96,650	96,400	9,600	500	22,902
108316	MALEIC ANHYDRIDE	0	0	12,130	11,630	0	154	23,675
100210	TEREPHTHALIC ACID	0	0	250	0	0	0	0
85449	PHTHALIC ANHYDRIDE	135	0	5,240	2,040	0	29,998	23,700
51796	URETHANE	0	0	0	0	0	0	0
106467	1,4-DICHLOROBENZENE	0	0	750	250	4,550	0	750
123911	1,4-DIOXANE	0	0	11,450	0	0	0	26,475
84742	DIBUTYL PHTHALATE	66,000	0	1,000	114,338	14	1,750	5,700
106898	EPICHLOROHYDRIN	0	0	2,172	0	460	1,315	34,237
110861	PYRIDINE	0	0	0	34,259	250	0	1,384
79469	2-NITROPROPANE	250	0	894	0	0	190,800	69,000
120809	CATECHOL	0	0	0	0	0	0	0
15	NICKEL COMPOUNDS	0	16,250	5,354	21,500	2,414	12,813	750
108781	MELAMINE	0	0	250	0	0	1,219	121,000
140885	ETHYL ACRYLATE	0	0	500	0	1,596	19,020	52,937
120127	ANTHRACENE	0	0	16,452	13,580	0	1,509	1,512
101779	4,4'-METHYLEDIANILINE	0	0	0	0	10,945	0	112
80057	4,4'-ISOPROPYLIDENEDIPHENOL	0	0	500	0	0	1,008	500
85687	BUTYL BENZYL PHTHALATE	0	0	4	0	17,396	4,888	0
80159	CUMENE HYDROPEROXIDE	0	0	500	0	38,400	2,088	60
84662	DIETHYL PHTHALATE	0	0	0	16	0	0	0
7550450	TITANIUM TETRACHLORIDE	0	0	0	500	0	0	100
593602	VINYL BROMIDE	0	0	0	0	0	0	0
624839	METHYL ISOCYANATE	0	0	0	143,097	0	0	0
5	CADMIUM COMPOUNDS	0	100,250	1,700	0	250	6,650	1
540590	1,2-DICHLOROETHYLENE	0	0	0	0	9,628	1,037	84,173
2	ARSENIC COMPOUNDS	0	0	1,250	250	0	750	250
7439976	MERCURY	0	0	250	2	0	1,849	1,250
94757	2,4-D (ACETIC ACID)	281	0	4	0	250	0	0
121697	N,N-DIMETHYLANILINE	0	0	0	0	0	0	0
98953	NITROBENZENE	0	0	0	0	0	0	15,058
91087	TOLUENE-2,6-DIISOCYANATE	0	0	881	381	500	2,480	534
79345	1,1,2,2-TETRACHLOROETHANE	0	0	0	0	0	355	32,271
106503	P-PHTHLENDIAMINE	0	0	0	0	0	0	3
103231	BIS(2-ETHYLHEXYL) ADIPATE	0	0	250	0	0	0	0
1313275	MOLYBDENUM TRIOXIDE	7,500	0	0	250	1,000	223	750
7440439	CADMIUM	0	0	250	0	0	0	0
1	ANTIMONY COMPOUNDS	0	1,000	1,000	2,376	0	1,916	251
121142	2,4-DINITROTOLUENE	0	0	0	250	0	0	69,948
7440382	ARSENIC	0	0	0	190	0	8	253
106445	P-CRESOL	0	0	26,698	0	1,000	998	445
75445	PHOSGENE	0	0	0	500	69,368	0	698
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	0	0	0	0	0	1,161
106887	1,2-BUTYLENE OXIDE	0	0	0	2,750	0	0	13,720

VVV 000010340

CAS NO.	CHEMICAL NAME	1A	1D	1L	1M	KS	KY	L.
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	0	0	0	0	0	1,007
107051	ALLYL CHLORIDE	0	0	0	0	2,150	423	806
7440393	BARIUM	0	0	2	0	0	2,994	0
98884	BENZOYL CHLORIDE	0	0	0	0	500	0	0
106934	1,2-DIBROMOETHANE	0	0	250	250	0	0	7,030
132649	DIBENZOFURAN	0	0	4,571	2,001	0	840	1,071
95487	O-CRESOL	0	0	8,966	0	0	1,001	162
8	COBALT COMPOUNDS	0	0	590	500	23	294	500
541731	1,3-DICHLOROBENZENE	0	0	2,000	0	0	0	750
55630	NITROGLYCERIN	0	0	0	250	0	0	0
1332214	ASBESTOS (FRIABLE)	0	0	1,077	250	0	1,000	110
117840	N-DIOCTYL PHTHALATE	0	0	3,126	3,124	2,102	250	0
7440484	COBALT	0	0	905	905	0	4	250
100447	BENZYL CHLORIDE	0	0	511	11	0	0	0
107028	ACROLEIN	0	0	0	0	0	0	27,258
74953	METHYLENE BROMIDE	0	0	0	0	0	0	0
7440360	ANTIMONY	0	0	256	881	250	256	751
12427382	MANEB	0	0	0	0	0	33,823	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	0	0	0	6,270
302012	HYDRAZINE	0	0	265	0	0	1	1,708
88755	2-NITROPHENOL	0	0	27,000	0	0	0	0
51285	2,4-DINITROPHENOL	0	0	0	0	0	0	0
123319	HYDROQUINONE	0	0	250	0	0	250	254
79118	CHLOROACETIC ACID	0	0	10	0	0	0	21
1163195	DECABROMODIPHENYL OXIDE	0	0	0	0	0	0	0
133062	CAPTAN	0	250	750	0	0	0	0
91225	QUINOLINE	0	0	750	250	0	0	250
74884	METHYL IODIDE	0	0	0	0	0	0	0
98077	BENZOIC TRICHLORIDE	0	0	0	0	0	0	0
95534	O-TOLUIDINE	0	0	0	0	250	0	0
87865	PENTACHLOROPHENOL	0	500	0	0	824	250	0
606202	2,6-DINITROTOLUENE	0	0	0	0	0	0	17,862
1897456	CHLOROTHALONIL	0	0	0	0	0	0	0
108394	M-CRESOL	0	0	2,975	0	0	998	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	18,173	0	0	0	0
64675	DIETHYL SULFATE	0	0	0	0	0	0	0
75274	DICHLOROBROMOMETHANE	0	0	0	3,600	0	0	0
17	SELENIUM COMPOUNDS	0	0	0	0	0	500	0
156627	CALCIUM CYANAMIDE	0	0	0	0	12,750	0	0
18	SILVER COMPOUNDS	0	0	500	0	0	0	0
7440224	SILVER	0	0	0	0	0	645	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	0	250	0	0	0	0	0
77781	DIMETHYL SULFATE	0	0	750	0	0	0	0
79061	ACRYLAMIDE	0	0	83	0	0	250	2,943
541413	ETHYL CHLOROFORMATE	0	0	0	0	0	0	0
52686	TRICHLORFON	0	0	0	0	1	9,700	0
92875	BENZIDINE	0	0	0	0	0	0	0
79210	PERACETIC ACID	0	0	250	500	0	0	188

VVV 000010341

CAS NO.	CHEMICAL NAME	1A	1D	1L	1M	KS	KY	LA
7440622	VANADIUM (FINE OR DUST)	0	0	250	250	1	1,566	0
76448	HEPTACHLOR	0	0	5,500	0	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	0	0	0	0	0	0	450
63252	CARBARYL	0	0	0	0	0	0	0
62566	THIOUREA	0	0	4,000	0	0	0	0
94360	BENZOTYL PEROXIDE	0	0	0	0	500	0	500
67721	HEXACHLOROETHANE	0	0	0	250	421	0	912
7782492	SELENIUM	250	0	500	0	0	0	0
100027	4-NITROPHENOL	0	0	2,200	0	0	0	2,250
98873	BENZAL CHLORIDE	0	0	0	0	0	0	0
7440417	BERYLLIUM	0	0	0	0	0	0	0
72435	METHOXYCHLOR	0	0	0	0	0	0	0
90040	O-ANISIDINE	0	0	0	0	0	0	0
87683	HEXACHLORO-1,3-BUTADIENE	0	0	0	0	176	0	1,270
177817	(invalid no. should be 117817)	0	0	0	0	0	0	0
77474	HEXACHLOROCYCLOPENTADIENE	0	0	550	0	0	0	0
1582098	TRIFLURALIN	250	0	500	500	0	0	0
95807	2,4-DIAMINOTOLUENE	0	0	0	0	0	0	0
57749	CHLORDANE	0	0	884	0	0	0	0
120718	P-CRESIDINE	0	0	278	0	0	0	0
90437	2-PHENYLPHENOL	0	0	500	0	0	0	0
14	MERCURY COMPOUNDS	0	0	0	0	0	0	0
120832	2,4-DICHLOROPHENOL	0	0	0	0	0	0	0
2164172	FLUOMETURON	0	0	0	0	0	0	0
60355	ACETAMIDE	0	250	0	0	0	0	0
118741	HEXACHLOROBENZENE	0	0	0	0	106	0	367
139139	NITRILOTRIACETIC ACID	0	0	0	0	0	0	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	0	0	0	0	0	0	0
105679	2,4-DIMETHYLPHENOL	0	0	0	0	0	0	0
1314201	THORIUM DIOXIDE	0	0	0	0	0	0	0
96093	STYRENE OXIDE	0	0	0	0	0	0	523
107302	CHLOROMETHYL METHYL ETHER	0	0	0	0	0	0	0
534521	4,6-DINITRO-O-CRESOL	0	0	0	0	0	0	3
106514	QUINONE	0	0	0	0	0	0	0
91941	3,3'-DICHLOROBENZIDINE	0	0	0	0	0	0	0
57147	1,1-DIMETHYL HYDRAZINE	0	0	0	0	0	0	0
6	CHLOROPHENOLS	0	0	0	0	0	0	0
135206	CUPFERON	0	0	0	0	0	0	0
134327	ALPHA-NAPHTHYLAMINE	0	0	0	0	0	0	0
56382	PARATHION	0	0	0	0	250	0	0
88891	PICRIC ACID	0	0	0	0	0	0	0
81072	SACCHARIN (MANUFACTURING)	0	0	0	0	0	0	0
62737	DICHLORVOS	0	0	0	0	0	0	0
58899	LINDANE	0	250	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	0	0	250	0	0	0	0
60344	METHYL HYDRAZINE	0	0	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB	0	0	0	0	0	0	0
4	BERYLLIUM COMPOUNDS	0	0	0	0	0	0	0

VVV 000010342

CAS NO.	CHEMICAL NAME	IA	ID	IL	IN	KS	KY	L
95954	2,4,5-TRICHLOROPHENOL	0	0	0	0	0	0	0
39154417	2,4-DIAMINOANISOLE SULFATE	0	0	0	0	0	0	0
133904	CHLORAMBN	0	0	500	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	0	0
94597	SAFROLE	0	0	0	0	0	0	0
90948	NICHLER'S KETONE	0	0	0	0	0	0	0
101144	4,4'-METHYLENEBIS(2-CHLORO AMI	0	0	0	0	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	0	0
82688	QUINTOZENE	0	0	0	0	0	0	0
532274	2-CHLOROACETOPHENONE	0	0	0	0	0	0	0
156105	P-NITROSDIPHENYLAMINE	0	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	0	0
114261	PROPOXUR	0	0	0	0	0	0	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0	0
569642	C.I. BASIC GREEN 4	0	0	0	0	0	0	0
92671	4-AMINOBIPHENYL	0	0	0	0	0	0	1
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0	0
615054	2,4-DIAMINOANISOLE	0	0	0	0	0	0	0
87627	2,6-XYLIDINE							
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0	0
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0	
96457	ETHYLENE THIOUREA	0	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0	0
51752	NITROGEN MUSTARD							
86306	N-NITROSDIPHENYLAMINE	0	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0	0
1120714	PROPANE SULTONE	0	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0	0
12122677	ZINEB	0	0	0	0	0	0	0

VVV 000010343

CAS NO.	CHEMICAL NAME	MA	MD	ME	MI	MM	MO	MS
108883	TOLUENE	4,660,753	808,678	296,424	15,744,734	5,183,892	4,710,857	238,500
7664417	AMMONIA	392,606	3,590,493	189,407	1,163,908	309,294	1,652,269	58,500
67641	ACETONE	1,827,944	381,805	810,953	11,023,686	1,375,920	2,023,935	3,550
67561	METHANOL	1,700,354	475,043	1,625,225	4,643,513	2,274,901	2,829,917	98,422
75150	CARBON DISULFIDE	0	0	0	1,850	7,100	1,475	0
71556	1,1,1-TRICHLOROETHANE	3,048,874	1,460,355	1,342,434	4,639,506	2,279,479	2,871,100	150,000
78933	METHYL ETHYL KETONE	2,591,042	1,405,775	22,850	12,419,314	1,624,288	3,031,991	4,529,241
1330207	XYLENE (MIXED ISOMERS)	544,978	926,672	281,132	16,923,360	3,193,202	7,340,100	332,914
75092	DICHLOROMETHANE	2,796,577	483,002	177,900	8,731,042	1,931,917	1,920,311	57,400
7782505	CHLORINE	2,001	1,108,174	2,263,323	3,920,946	171,771	93,492	20,318
1344281	ALUMINUM OXIDE	668,310	1,746,578	4,950	1,573,670	707,166	364,974	2,862,610
74851	ETHYLENE	0	0	0	79,627	28,740	0	74,600
7647010	HYDROCHLORIC ACID	96,872	1,521,097	163,556	1,523,218	142,708	109,495	279,000
76131	FREON 113	2,707,365	192,816	146,150	1,343,325	2,525,365	928,407	35,000
79016	TRICHLOROETHYLENE	1,991,987	291,735	0	1,939,717	862,967	1,716,959	6,624
115071	PROPYLENE	0	0	0	76,950	160,700	500	201,000
11	GLYCOL ETHERS	348,299	183,401	450,000	5,248,738	487,618	2,925,941	150,171
127184	TETRACHLOROETHYLENE	148,660	66,452	96,970	614,508	186,482	225,222	7
71363	N-BUTYL ALCOHOL	80,463	178,410	73,585	2,572,906	573,034	1,934,673	36,600
108101	METHYL ISOBUTYL KETONE	105,180	214,955	0	1,575,865	263,081	464,576	804,556
71432	BENZENE	0	195,000	0	748,917	98,653	5,911	231,432
100425	STYRENE	272,923	212,894	52,050	1,023,709	1,187,782	66,263	27,050
67663	CHLOROFORM	0	680,000	940,160	446,384	184,700	177,600	204,896
74873	CHLOROMETHANE	250	0	0	433,182	0	533,633	0
463581	CARBONYL SULFIDE	0	0	0	0	0	0	6,000,000
7664939	SULFURIC ACID	81,888	301,540	267,859	599,432	228,813	181,514	17,310
50000	FORMALDEHYDE	180,939	3,775	180,987	511,511	675,551	157,884	77,200
67630	ISOPROPYL ALCOHOL (MANUFACTURE)	100,646	101,457	54,780	342,897	82,439	315,564	250
107211	ETHYLENE GLYCOL	127,066	110,620	0	67,898	6,361	27,336	0
10049044	CHLORINE DIOXIDE	0	650,250	1,613,954	166,000	18,250	0	33,964
7664393	HYDROGEN FLUORIDE	7,609	412,250	500	15,340	99,700	21,557	357,055
110827	CYCLOHEXANE	0	3,097	0	30,742	26,474	10,366	131,740
106990	1,3-BUTADIENE	0	0	0	63,472	0	0	2,720
108952	PHENOL	12,110	7,325	3,667	253,693	215,882	29,813	2,850
6484522	AMMONIUM NITRATE (SOLUTION)	0	0	0	500	0	994,929	0
109864	2-METHOXYETHANOL	1,157,414	0	130,000	9,060	328	12,250	250
106423	P-XYLENE	0	2,750	0	2,350	0	0	247,700
7697372	NITRIC ACID	31,255	17,816	15,855	53,121	25,982	2,588,232	4,000
7429905	ALUMINUM (FUME OR DUST)	500	750	0	193,641	0	3,250	0
108054	VINYL ACETATE	73,100	14,200	0	40,606	0	64	0
107062	1,2-DICHLOROETHANE	65,950	25,427	0	239,550	6,132	114,700	500
1310732	SODIUM HYDROXIDE (SOLUTION)	85,727	32,545	17,800	990,024	17,136	29,847	500
75070	ACETALDEHYDE	26,000	0	250	0	0	37,000	0
100414	ETHYLBENZENE	16,000	19,240	33,597	369,609	258,581	23,009	21,550
75218	ETHYLENE OXIDE	13,800	5,350	0	93,828	0	58,350	250
7757826	SODIUM SULFATE (SOLUTION)	523	524	1,000	278	28,000	2,500	250
75003	CHLOROETHANE	250	0	0	154,550	0	1,070,000	0
21	TOTAL FOR MIXTURES	209,982	40	0	144,793	3,750	44,470	70,101

VVV 000010344

CAS NO.	CHEMICAL NAME	MA	MD	ME	MI	MW	MO	MS
56235	CARBON TETRACHLORIDE	0	1,884	0	157,666	0	63	1,000
107131	ACRYLONITRILE	592	0	0	43,489	0	500	86,282
108907	CHLOROBENZENE	6,900	0	0	118,213	0	5,561	0
75569	PROPYLENE OXIDE	0	1,700	250	304,802	14	11,448	275
98828	CUMENE	0	500	0	500	85	1,590	31,650
80626	METHYL METHACRYLATE	6,793	868	188,250	115,984	172	3,166	500
20	ZINC COMPOUNDS	5,327	24,438	750	367,170	505	22,655	1,160
91203	NAPHTHALENE	1,421	58,500	0	46,579	17,510	6,452	28,764
7440666	ZINC (FUME OR DUST)	3,512	5,074	0	275,135	527	97,111	0
95476	O-XYLENE	80,146	1,650	0	2,400	0	11,700	140,750
75058	ACETONITRILE	32,134	2,867	0	37,993	0	18	0
9	COPPER COMPOUNDS	3,600	10,800	500	3,055	1,010	16,905	500
110805	2-ETHOXYETHANOL	9,432	11,199	92,000	264,378	620,099	54,614	2
108383	M-XYLENE	9,250	2,550	0	8,200	0	500	257,000
7440508	COPPER	8,185	33,614	500	665,437	611	27,773	250
95636	1,2,4-TRIMETHYLBENZENE	0	1,250	0	3,800	116,293	4,808	96,650
131113	DIMETHYL PHTHALATE	0	116,250	0	4	661,737	15,250	0
1634044	METHYL TERT-BUTYL ETHER	0	0	0	46,309	0	5,200	500
79005	1,1,2-TRICHLOROETHANE	845,657	21,000	0	196,552	28,000	0	0
123728	BUTYRALDEHYDE	224,000	0	0	130,750	0	0	0
13	MANGANESE COMPOUNDS	250	189,804	5,900	54,046	0	1,260	22,150
117817	DI-(2-ETHYLHEXYL) PHTHALATE	11,487	440	0	22,489	7,350	3,150	327,505
92524	BIPHENYL	0	500	15,920	1,000	1,080	0	1,250
75014	VINYL CHLORIDE	0	0	0	2,203	0	790	120,00
7664382	PHOSPHORIC ACID	10,213	1,503	2,500	80,989	1,507	5,262	50
78842	ISOBUTYRALDEHYDE	0	0	0	0	0	0	0
120821	1,2,4-TRICHLOROBENZENE	0	0	0	0	0	0	0
7439921	LEAD	636	540	0	17,663	12,445	355,278	160
126998	CHLOROPRENE	0	0	0	0	0	0	0
10	CYANIDE COMPOUNDS	5,650	30,158	750	2,770	4,800	7,900	250
123386	PROPIONALDEHYDE	0	0	0	0	0	0	0
78875	1,2-DICHLOROPROPANE	0	0	0	0	0	0	250
101688	METHYLENEBIS(PHENYLISOCYANATE)	1,750	500	250	8,551	250	431,004	0
3	BARIUM COMPOUNDS	1,002	7,105	0	8,247	0	16,985	31
12	LEAD COMPOUNDS	3,646	18,082	0	22,459	2,744	92,532	3,053
75650	TERT-BUTYL ALCOHOL	0	0	0	88,003	0	16	0
75354	VINYLDENE CHLORIDE	0	0	0	18,539	0	0	0
79107	ACRYLIC ACID	606	254	0	4,548	92	6	500
1319773	CRESOL (MIXED ISOMERS)	0	0	0	1	0	8,956	8,180
78922	SEC-BUTYL ALCOHOL	800	7,127	10	14,821	21	13	0
7	CHROMIUM COMPOUNDS	3,505	83,269	662	4,872	2,076	4,801	254
74839	BROMOMETHANE	18,200	0	0	14,200	0	11,500	21,300
96333	METHYL ACRYLATE	1,500	0	2,700	500	4,700	0	500
141322	BUTYL ACRYLATE	3,820	27,298	0	1,412	0	11,500	500
62533	ANILINE	0	0	0	0	0	0	64,600
7439965	MANGANESE	250	6,762	0	10,542	1,530	53,204	21
7783202	AMMONIUM SULFATE (SOLUTION)	44	0	0	1	0	500	0
95501	1,2-DICHLOROBENZENE	11,350	0	0	0	0	250	87

CAS NO.	CHEMICAL NAME	MA	MD	ME	MI	MM	MO	MS
74908	HYDROGEN CYANIDE	0	0	0	0	89	0	0
584849	TOLUENE-2,4-DIISOCYANATE	695	1,500	0	1,750	370	2,502	489
7440020	NICKEL	1,000	1,450	250	10,891	18,478	3,621	250
7440473	CHROMIUM	15,912	61,106	24	14,126	7,457	4,993	0
111422	DIETHANOLAMINE	3,700	0	0	32,278	0	500	1,400
108316	MALEIC ANHYDRIDE	500	437	500	750	860	3,349	95
100210	TEREPHTHALIC ACID	1,039	0	0	0	0	0	0
85449	PHTHALIC ANHYDRIDE	1,350	8,627	0	5,806	7,550	2,507	0
51796	URETHANE	0	0	0	0	0	0	0
106467	1,4-DICHLOROBENZENE	0	0	0	0	0	500	0
123911	1,4-DIOXANE	750	250	0	33,915	18	19	14,880
84742	DIBUTYL PHTHALATE	250	20,890	0	3,902	1,800	0	0
106898	EPICHLOROHYDRIN	44,209	0	0	7,600	0	603	21,792
110861	PYRIDINE	0	0	0	13,250	0	0	0
79469	2-NITROPROPANE	0	0	0	0	0	0	0
120809	CATECHOL	0	491	0	0	0	0	0
15	NICKEL COMPOUNDS	3,250	23,146	603	7,900	250	6,140	0
108781	MELANINE	91,800	0	1,650	4,250	0	500	0
140885	ETHYL ACRYLATE	2,000	1,002	0	573	2,600	19	500
120127	ANTHRACENE	0	500	0	4,350	120	735	250
101779	4,4'-METHYENEDIANILINE	0	0	0	0	334	103,215	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	730	7,902	0	500	0	0	0
85687	BUTYL BENZYL PHTHALATE	58,999	0	0	15,301	0	2,355	0
80159	CUMENE HYDROPEROXIDE	0	0	0	150	0	0	0
84662	DIETHYL PHTHALATE	47,000	0	0	854	0	36,750	0
7550450	TITANIUM TETRACHLORIDE	0	750	0	250	0	0	8,000
593602	VINYL BROMIDE	0	0	0	0	0	0	0
624839	METHYL ISOCYANATE	0	0	0	0	0	0	0
5	CADMIUM COMPOUNDS	0	0	0	0	0	1,040	0
540590	1,2-DICHLOROETHYLENE	0	0	0	0	0	0	0
2	ARSENIC COMPOUNDS	0	250	0	250	250	540	500
7439976	MERCURY	0	0	1,051	0	7	44	0
96757	2,4-D (ACETIC ACID)	0	0	0	750	54	2,093	0
121697	N,N-DIMETHYLANILINE	0	0	0	0	250	12,250	0
98953	NITROBENZENE	0	0	0	0	0	1,200	37,800
91087	TOLUENE-2,6-DIISOCYANATE	126	1,500	0	1,008	500	1,500	122
79345	1,1,2,2-TETRACHLOROETHANE	0	0	0	250	30,016	0	0
106503	P-PHENYLENEDIAMINE	0	0	0	0	0	0	0
103231	BIS(2-ETHYLHEXYL) ADIPATE	1,818	414	0	250	0	0	0
1313275	MOLYBDENUM TRIOXIDE	0	3,056	500	20,000	0	0	500
7440439	CADMIUM	750	500	0	250	0	970	0
1	ANTIMONY COMPOUNDS	1,000	500	0	750	27	269	0
121142	2,4-DINITROTOLUENE	0	0	0	0	0	0	0
7440382	ARSENIC	7,056	608	0	2,117	123	0	0
106445	P-CRESOL	0	0	0	0	0	0	0
75445	PHOSGENE	0	0	0	500	0	0	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	0	0	1,000	0	0	0
106887	1,2-BUTYLENE OXIDE	0	0	0	49,804	72	0	0

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CAS NO.	CHEMICAL NAME	MA	MD	ME	MI	MN	MO	MS
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	0	51,742	0	0	3	0
107051	ALLYL CHLORIDE	250	0	0	2,034	0	0	0
7440393	BARIUM	750	500	0	13,661	19,640	250	0
98884	BENZOYL CHLORIDE	0	0	0	0	0	0	330
106934	1,2-DIBROMOETHANE	0	0	0	0	14	0	500
132649	DIBENZOFURAN	0	250	0	3,700	0	796	750
95487	O-CRESOL	0	0	0	0	0	0	6,945
8	COBALT COMPOUNDS	1,000	1,562	0	250	630	500	0
541731	1,3-DICHLOROBENZENE	0	0	0	1,000	0	0	0
55630	NITROGLYCERIN	0	0	0	0	0	750	0
1332214	ASBESTOS (FRIABLE)	750	0	0	1,251	0	0	0
117840	N-DIOCTYL PHTHALATE	14,000	0	0	14,500	0	0	0
7440484	COBALT	0	0	0	2,957	76	762	250
100447	BENZYL CHLORIDE	0	0	0	4,950	0	250	0
107028	ACROLEIN	0	0	0	0	0	0	0
74953	METHYLENE BROMIDE	0	2,231	0	13,731	0	0	0
7440360	ANTIMONY	0	7,079	0	500	250	250	0
12427382	MANEB	0	250	0	0	0	0	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	500	0	0	0
302012	HYDRAZINE	500	0	0	0	0	842	0
88755	2-NITROPHENOL	0	6,149	0	0	0	0	0
51285	2,4-DINITROPHENOL	0	0	0	0	0	0	0
123319	HYDROQUINONE	0	0	0	500	0	0	0
79118	CHLOROACETIC ACID	0	0	0	0	0	3,800	0
1163195	DECABROMODIPHENYL OXIDE	2	0	0	1,000	0	0	0
133062	CAPTAN	0	250	0	0	0	90	500
91225	QUINOLINE	0	0	0	1,570	0	0	250
74884	METHYL IODIDE	0	0	0	0	0	0	0
98077	BENZOIC TRICHLORIDE	0	0	0	0	0	0	0
95534	O-TOLUIDINE	0	0	0	0	0	0	1,000
87865	PENTACHLOROPHENOL	0	0	0	0	123	508	750
606202	2,6-DINITROTOLUENE	0	0	0	0	0	0	0
1897456	CHLOROTHALONIL	0	1,792	0	0	0	0	0
108394	M-CRESOL	0	0	0	0	0	0	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	0	0	0	0	0
64675	DIETHYL SULFATE	655	0	0	0	0	0	0
75274	DICHLOROBROMOMETHANE	0	0	0	0	0	0	0
17	SELENIUM COMPOUNDS	0	0	0	0	0	0	0
156627	CALCIUM CYANAMIDE	0	0	0	0	0	0	0
18	SILVER COMPOUNDS	500	0	0	0	0	500	0
7440224	SILVER	840	0	0	0	0	0	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	0	0	0	3,400	0	0	0
77781	DIMETHYL SULFATE	0	0	0	0	0	97	0
79061	ACRYLAMIDE	0	0	0	750	0	650	0
541413	ETHYL CHLOROFORMATE	0	0	0	0	0	0	0
52686	TRICHLORFON	0	0	0	0	0	17	0
92875	BENZIDINE	0	0	0	9,300	0	0	0
79210	PERACETIC ACID	0	0	0	0	14	0	0

CAS NO.	CHEMICAL NAME	MA	MD	ME	MI	MM	MO	MS
7440622	VANADIUM (FUME OR DUST)	0	500	0	0	140	0	0
76448	HEPTACHLOR	0	0	0	0	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	0	0	0	0	0	3,435	0
63252	CARBARYL	0	250	0	0	0	750	500
62566	THIOUREA	0	0	0	0	0	0	0
94360	BENZOYL PEROXIDE	500	0	0	0	0	0	0
67721	HEXACHLOROETHANE	0	0	0	0	0	1,000	0
7782492	SELENIUM	0	500	0	0	22	250	0
100027	4-NITROPHENOL	0	0	0	0	0	0	0
98873	BENZAL CHLORIDE	0	0	0	0	0	0	0
7440417	BERYLLIUM	0	0	0	0	0	0	0
72435	METHOXYCHLOR	0	0	0	0	0	0	0
90040	O-ANISIDINE	0	0	0	0	0	0	0
87683	HEXACHLORO-1,3-BUTADIENE	0	0	0	0	0	160	0
177817	(invalid no. should be 117817)	0	0	0	0	0	0	0
77474	HEXACHLOROCYCLOPENTADIENE	0	0	0	0	0	0	0
1582098	TRIFLURALIN	0	0	0	0	0	99	0
95807	2,4-DIAMINOTOLUENE	0	0	0	0	0	0	0
57749	CHLORDANE	0	0	0	0	0	0	500
120718	P-CRESIDINE	0	0	0	0	0	0	0
90437	2-PHENYLPHENOL	0	0	0	1,000	0	0	0
14	MERCURY COMPOUNDS	0	0	0	0	0	250	0
120832	2,4-DICHLOROPHENOL	0	0	0	1,571	0	0	0
2164172	FLUOMETURON	0	0	0	0	0	1,611	0
60355	ACETANIDE	0	0	0	0	0	0	0
118741	HEXACHLOROBENZENE	0	0	0	0	0	0	0
139139	NITRILOTRIACETIC ACID	0	0	0	500	0	0	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	0	0	0	0	0	1,000	0
105679	2,4-DIMETHYLPHENOL	0	0	0	0	0	0	0
1314201	THORIUM DIOXIDE	0	0	0	0	0	0	0
96093	STYRENE OXIDE	0	0	0	0	0	0	0
107302	CHLOROMETHYL METHYL ETHER	0	0	0	250	0	0	0
534521	4,6-DINITRO-O-CRESOL	0	0	0	0	0	0	0
106514	QUINONE	0	0	0	0	0	0	0
91941	3,3'-DICHLOROBENZIDINE	0	0	0	3	0	0	0
57147	1,1-DIMETHYL HYDRAZINE	0	0	0	0	0	0	0
6	CHLOROPHENOLS	0	0	0	0	0	0	0
135206	CUPFERRON	0	0	0	0	0	690	0
134327	ALPHA-NAPHTHYLAMINE	0	0	0	0	0	0	0
56382	PARATHION	0	0	0	0	0	0	500
88891	PICRIC ACID	0	0	0	0	0	0	500
81072	SACCHARIN (MANUFACTURING)	0	0	0	0	0	0	0
62737	DICHLORVOS	0	0	0	0	0	0	0
58899	LINDANE	0	0	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	0	0	0	0	0	210	0
60344	METHYL HYDRAZINE	0	0	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB)	13	0	0	250	0	0	0
4	BERYLLIUM COMPOUNDS	0	0	0	0	0	250	0

CAS NO.	CHEMICAL NAME	MA	MD	ME	MI	MN	MO	MS
95954	2,4,5-TRICHLOROPHENOL	0	0	0	0	0	0	0
39156417	2,4-DIAMINOANISOLE SULFATE	0	0	0	0	0	0	0
133904	CHLORAMBN	0	0	0	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	0	0
94597	SAFROLE	0	0	0	0	0	0	0
90948	HICHLER'S KEYONE	0	0	0	0	0	400	0
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	0	0	0	0	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	0	0
82688	QUINTOZENE	0	0	0	0	0	0	0
532274	2-CHLOROACETOPHENONE	0	0	0	250	0	0	0
156105	P-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	250	0
114261	PROPOXUR	0	0	0	0	0	47	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0	4
569642	C.I. BASIC GREEN 4	0	0	0	0	0	0	0
92671	4-AMINOBIPHENYL	0	0	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0	0
615054	2,4-DIAMINOANISOLE	0	0	0	0	0	0	0
87627	2,6-XYLIDINE	0	0	0	0	0	0	0
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0	0
97543	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0	0
96457	ETHYLENE THIOUREA	0	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0	0
51752	NITROGEN MUSTARD	0	0	0	0	0	0	0
86306	N-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0	0
1120714	PROPANE SULTONE	0	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0	0
12122677	ZINEB	0	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	NT	NC	ND	NE	NN	NJ	NM
108883	TOLUENE	237,500	22,392,615	83,000	2,223,641	1,697,388	8,883,961	118,853
7664417	AMMONIA	58,250	7,133,471	60,500	3,814,298	172,649	778,945	250
67641	ACETONE	0	4,324,671	3,200	362,571	392,597	6,183,122	80,408
67561	METHANOL	58,250	12,460,807	22,506	250,541	309,841	2,146,590	0
75150	CARBON DISULFIDE	0	0	0	0	0	12,273	0
71556	1,1,1-TRICHLOROETHANE	0	4,384,073	58,145	901,909	1,103,631	1,131,132	370,000
78933	METHYL ETHYL KETONE	0	6,512,564	346,214	529,307	743,647	3,114,479	11,750
1330207	XYLENE (MIXED ISOMERS)	324,950	2,340,369	208,618	1,073,194	371,727	2,192,312	7,049
75092	DICHLOROMETHANE	0	6,957,679	0	1,705,269	2,989,771	1,491,752	0
7782505	CHLORINE	318	421,807	15,980	23,776	690,500	117,011	500
1344281	ALUMINUM OXIDE	2,949,860	1,916,274	160,000	3,020	4,850	265,434	1,440
74851	ETHYLENE	95,760	0	2,200	0	0	654,212	500
7647010	HYDROCHLORIC ACID	1,000	1,115,687	1,000	6,046	3,486	469,287	1,042
76131	FREON 113	0	1,403,967	0	855,586	665,527	901,085	991,931
79016	TRICHLOROETHYLENE	7,324	329,096	0	255,878	263,204	260,567	0
115071	PROPYLENE	174,400	1	4,400	0	6,900	308,050	8,250
11	GLYCOL ETHERS	0	960,415	14,000	77,500	48,970	645,374	11,850
127184	TETRACHLOROETHYLENE	0	894,260	32,000	162,250	115,597	57,164	0
71363	N-BUTYL ALCOHOL	8,600	1,784,138	0	10,458	25,959	1,061,647	0
108101	METHYL ISOBUTYL KETONE	7,300	263,347	0	212,769	85,114	1,037,639	0
71432	BENZENE	69,340	190,182	20,500	250	0	235,005	15,499
100425	STYRENE	4,950	1,439,354	8,200	49,800	39,393	124,543	0
67663	CHLOROFORM	0	3,538,122	0	0	82,000	219,013	0
74873	CHLOROMETHANE	0	0	0	0	0	87,050	0
463581	CARBONYL SULFIDE	0	0	0	0	0	0	0
7664939	SULFURIC ACID	17,310	496,121	1,100	10,437	58,150	439,355	523,650
50000	FORMALDEHYDE	76,700	526,233	500	14,127	6,434	236,275	18,500
67630	ISOPROPYL ALCOHOL (MANUFACTURER)	0	1,542,428	253,776	141,276	1,007,153	381,950	6,000
107211	ETHYLENE GLYCOL	0	1,759,873	880	1,650	956	91,814	750
10049044	CHLORINE DIOXIDE	0	352,736	0	0	640,000	0	0
7664393	HYDROGEN FLUORIDE	465,420	168,844	3,700	0	0	10,676	252
110827	CYCLOHEXANE	40,254	97,554	3,600	0	0	64,790	499
106990	1,3-BUTADIENE	520	9,643	0	0	0	126	0
108952	PHENOL	2,350	160,592	0	0	67,618	203,320	0
6484522	AMMONIUM NITRATE (SOLUTION)	10,000	1,750	0	390,000	0	0	0
109864	2-METHOXYETHANOL	0	200	47	0	383,900	5,862	0
106423	P-XYLENE	500	1,502,300	0	0	0	2,250	13,000
7697372	NITRIC ACID	0	20,489	0	20,383	3,931	411,998	6,050
7429905	ALUMINUM (FUME OR DUST)	0	224,342	0	0	3,000	45,554	0
108054	VINYL ACETATE	0	58,912	0	0	250	154,967	0
107062	1,2-DICHLOROETHANE	0	17,331	0	0	0	99,052	0
1310732	SODIUM HYDROXIDE (SOLUTION)	500	64,284	0	8,424	32,719	97,971	0
75070	ACETALDEHYDE	0	993,880	0	0	0	1,250	0
100414	ETHYLBENZENE	48,940	43,416	4,500	0	500	55,809	6,999
75218	ETHYLENE OXIDE	0	35,882	0	126,000	53,000	437,208	10,073
7757826	SODIUM SULFATE (SOLUTION)	250	113,430	0	0	760,000	2,226	0
75003	CHLOROETHANE	0	0	0	0	0	285,313	0
21	TOTAL FOR MIXTURES	0	226,280	0	0	169,256	374,453	0

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CAS NO.	CHEMICAL NAME	MT	MC	MD	ME	MH	MJ	MM
56235	CARBON TETRACHLORIDE	750	0	500	0	0	827,515	0
107131	ACRYLONITRILE	0	9,823	0	0	0	10,173	0
108907	CHLOROBENZENE	0	1,004	0	0	0	17,768	0
75369	PROPYLENE OXIDE	0	4,560	0	0	0	120,904	0
98828	CUMENE	30,650	0	0	19,711	0	170,361	0
80626	METHYL METHACRYLATE	0	4,900	0	0	5,000	77,681	0
20	ZINC COMPOUNDS	55,850	74,919	0	64,452	46	6,216	0
91203	NAPHTHALENE	24,864	113,892	580	180,750	0	37,524	499
7440666	ZINC (FUME OR DUST)	0	22,488	0	750	250	36,383	0
95476	O-XYLENE	500	883,383	0	0	0	1,680	17,000
75058	ACETONITRILE	0	200	0	0	0	29,450	0
9	COPPER COMPOUNDS	21,900	3,251	0	1,500	500	15,212	225,559
110805	2-ETHOXYETHANOL	0	0	0	3,255	0	750	0
108383	M-XYLENE	1,500	23,317	0	0	250	0	31,000
7440508	COPPER	0	105,276	0	3,089	250	26,783	750
95636	1,2,4-TRIMETHYLBENZENE	75,990	1,000	10,100	250	0	31,334	11,000
131113	DIMETHYL PHTHALATE	0	134,760	0	0	0	63	0
1634044	METHYL TERT-BUTYL ETHER	0	1,550	0	0	0	101,574	998
79005	1,1,2-TRICHLOROETHANE	0	0	0	62	0	1,000	0
123728	BUTYRALDEHYDE	0	2,800	0	0	0	0	0
13	MANGANESE COMPOUNDS	0	8,507	0	2,050	0	1,462	0
117817	DI-(2-ETHYLHEXYL) PHTHALATE	0	278,980	0	611	1,000	13,321	0
92524	BIPHENYL	500	418,750	0	0	0	750	0
75014	VINYL CHLORIDE	0	0	0	0	0	168,512	0
7664382	PHOSPHORIC ACID	0	7,600	0	592	750	42,444	0
78842	ISOBUTYRALDEHYDE	0	0	0	0	0	500	0
120821	1,2,4-TRICHLOROBENZENE	0	181,195	0	0	0	1,000	0
7439921	LEAD	103	4,921	0	538	750	15,733	0
126998	CHLOROPRENE	0	0	0	0	0	1,000	0
10	CYANIDE COMPOUNDS	0	0	0	8	0	2,323	0
123386	PROPIONALDEHYDE	0	0	0	0	0	0	0
78875	1,2-DICHLOROPROPANE	0	0	0	0	0	17,374	0
101688	METHYLENEBIS(PHENYLISOCYANATE)	0	1,000	0	1,000	1,000	2,510	0
3	BARIUM COMPOUNDS	0	11,302	0	250	0	3,792	0
12	LEAD COMPOUNDS	86,501	12,250	29	35,300	29	10,200	400
75650	TERT-BUTYL ALCOHOL	0	0	0	0	0	66,991	0
75354	VINYLDENE CHLORIDE	0	0	0	0	0	24,220	0
79107	ACRYLIC ACID	0	7,086	0	0	0	5,803	0
1319773	CRESOL (MIXED ISOMERS)	0	195,157	0	0	58,840	9,483	0
78922	SEC-BUTYL ALCOHOL	0	11,173	0	0	0	63,075	0
7	CHROMIUM COMPOUNDS	0	98,251	250	10	250	1,751	1,020
74839	BROMOMETHANE	0	29	0	0	0	0	0
96333	METHYL ACRYLATE	0	2,406	0	0	0	7,120	0
141322	BUTYL ACRYLATE	0	7,294	0	0	0	12,752	0
62533	ANILINE	0	3,740	0	0	0	17,962	0
7439965	MANGANESE	0	1,251	0	1,045	0	1,274	250
7783202	AMMONIUM SULFATE (SOLUTION)	0	3,592	0	116,700	0	500	0
95501	1,2-DICHLOROBENZENE	0	0	0	0	0	10,680	0

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CAS NO.	CHEMICAL NAME	MT	MC	MD	ME	MN	NJ	NM
74908	HYDROGEN CYANIDE	0	0	0	0	2,190	1,500	0
584849	TOLUENE-2,4-DIISOCYANATE	0	36,330	0	0	250	9,764	0
7440020	NICKEL	0	2,897	0	503	1,500	3,296	250
7440473	CHROMIUM	0	4,928	0	500	1,000	9,435	250
111422	DIETHANOLAMINE	3,100	773	600	0	250	14,802	0
108316	MALEIC ANHYDRIDE	0	0	0	0	0	5,320	0
100210	TEREPHTHALIC ACID	0	132,630	0	0	0	34	0
85449	PHTHALIC ANHYDRIDE	0	639	0	0	250	45,465	0
51796	URETHANE	0	0	0	0	0	374,100	0
106467	1,4-DICHLOROBENZENE	0	0	0	0	0	250	0
123911	1,4-DIOXANE	0	29,502	0	0	11,750	250	0
84742	DIBUTYL PHTHALATE	0	10,850	0	0	0	66,480	0
106898	EPICHLOROHYDRIN	0	376	0	0	0	36,606	0
110861	PYRIDINE	0	121,700	0	0	0	5,100	0
79469	2-NITROPROPANE	0	0	0	0	0	1,000	0
120809	CATECHOL	0	0	0	0	0	0	0
15	NICKEL COMPOUNDS	154	2,011	0	0	0	500	1,120
108781	MELAMINE	0	1,250	0	0	0	84	0
140885	ETHYL ACRYLATE	0	5,398	0	0	0	18,858	0
120127	ANTHRACENE	0	1,004	0	0	0	679	0
101779	4,4'-METHYLEDIANILINE	0	13,570	0	0	0	320	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	0	0	0	0	0	7,767	0
85687	BUTYL BENZYL PHTHALATE	0	6,871	0	0	0	31,072	0
80159	CUMENE HYDROPEROXIDE	0	0	0	0	0	4,500	0
84662	DIETHYL PHTHALATE	0	28	0	0	0	2,751	0
7550450	TITANIUM TETRACHLORIDE	0	0	0	0	0	1,475	0
593602	VINYL BROMIDE	0	0	0	0	0	0	0
624839	METHYL ISOCYANATE	0	0	0	0	0	0	0
5	CADMIUM COMPOUNDS	10,000	0	0	0	0	460	0
540590	1,2-DICHLOROETHYLENE	0	0	0	0	0	0	0
2	ARSENIC COMPOUNDS	51,000	1,002	0	2,680	250	250	0
7439976	MERCURY	0	114,249	0	0	0	500	0
94757	2,4-D (ACETIC ACID)	500	0	0	0	0	0	0
121697	N,N-DIMETHYLANILINE	0	0	0	0	0	695	0
98953	NITROBENZENE	0	2,550	0	0	0	2,000	0
91087	TOLUENE-2,6-DIISOCYANATE	0	1,642	0	250	253	1,171	254
79345	1,1,2,2-TETRACHLOROETHANE	0	0	0	0	0	0	0
106503	P-PHENYLENEDIAMINE	0	0	0	0	0	134	0
103231	BIS(2-ETHYLNEXYL) ADIPATE	0	0	0	109	0	27,271	0
1313275	MOLYBDENUM TRIOXIDE	250	0	0	0	0	26,752	0
7440439	CADMIUM	0	0	0	0	0	1,501	0
1	ANTIMONY COMPOUNDS	2,900	500	0	30,900	0	1,988	0
121142	2,4-DINITROTOLUENE	0	0	0	0	0	278	0
7440382	ARSENIC	0	1,002	0	0	0	0	0
106445	P-CRESOL	0	500	0	0	0	1,500	0
75445	PHOSGENE	0	0	0	0	0	673	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	0	0	0	0	0	0
106887	1,2-BUTYLENE OXIDE	0	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	MT	NC	ND	NE	NH	NJ	NM
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	0	0	0	0	9,296	0
107051	ALLYL CHLORIDE	0	0	0	0	0	2,210	0
7440393	BARIUM	0	261	0	250	0	1,650	0
98884	BENZOYL CHLORIDE	0	0	0	0	0	0	0
106934	1,2-DIBROMOETHANE	0	0	0	0	0	6,060	0
132649	DIBENZOFURAN	0	547	0	0	0	348	0
95487	O-CRESOL	0	0	0	0	0	504	0
8	COBALT COMPOUNDS	0	500	0	0	0	1,350	420
541731	1,3-DICHLOROBENZENE	0	0	0	0	0	32,400	0
55630	NITROGLYCERIN	0	0	0	0	0	30,172	0
1332214	ASBESTOS (FRIABLE)	250	926	0	250	0	1,000	0
117840	N-DIOCTYL PHTHALATE	0	1,875	0	0	0	250	0
7440484	COBALT	0	1,880	0	0	0	606	0
100447	BENZYL CHLORIDE	0	755	0	0	0	9,206	0
107028	ACROLEIN	0	0	0	0	0	0	0
74953	METHYLENE BROMIDE	0	0	13,200	0	0	168	0
7440360	ANTIMONY	0	28	0	0	0	1,250	0
12427382	MANEB	0	0	17	0	0	500	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	0	0	0	0
302012	HYDRAZINE	0	0	0	0	0	2,975	0
88755	2-NITROPHENOL	0	0	0	0	0	0	0
51285	2,4-DINITROPHENOL	0	500	0	0	0	0	0
123319	HYDROQUINONE	0	0	0	0	0	500	0
79118	CHLOROACETIC ACID	0	4	0	0	0	4,812	0
1163195	DECABROMODIPHENYL OXIDE	0	1	0	0	0	1,044	0
133062	CAPTAN	0	0	0	500	0	500	0
91225	QUINOLINE	0	0	0	0	0	0	6,000
74884	METHYL IODIDE	0	0	0	0	0	0	0
98077	BENZOIC TRICHLORIDE	0	0	0	0	0	250	0
95534	O-TOLUIDINE	0	500	0	0	0	1,687	0
87865	PENTACHLOROPHENOL	500	1	0	0	0	0	0
606202	2,6-DINITROTOLUENE	0	0	0	0	0	0	0
1897456	CHLOROTHALONIL	0	0	0	0	0	0	0
108394	M-CRESOL	0	250	0	0	0	0	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	0	0	0	0	0
64675	DIETHYL SULFATE	0	0	0	0	0	750	0
75274	DICHLOROBROMOMETHANE	0	0	0	0	0	1,500	0
17	SELENIUM COMPOUNDS	0	0	0	0	0	0	0
156627	CALCIUM CYANAMIDE	0	0	0	0	0	0	0
18	SILVER COMPOUNDS	940	250	0	500	0	575	0
7440224	SILVER	0	0	0	0	0	6,505	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	3,550	250	0	0	0	0	0
77781	DIMETHYL SULFATE	0	0	0	0	0	2,800	0
79061	ACRYLAMIDE	0	500	0	0	0	367	0
541413	ETHYL CHLOROFORMATE	0	0	0	0	9	0	0
52686	TRICHLORFON	0	0	0	0	0	0	0
92875	BENZIDINE	0	0	0	0	0	0	0
79210	PERACETIC ACID	0	0	0	0	0	1,000	0

CAS NO.	CHEMICAL NAME	MT	MC	MD	ME	MN	NJ	NM
7440622	Vanadium (fume or dust)	0	250	0	0	0	1,450	0
76648	Heptachlor	0	0	0	0	0	0	0
111444	Bis(2-chloroethyl) ether	0	0	0	0	0	0	0
63252	Carbaryl	0	0	0	0	0	0	0
62566	Thiourea	0	0	0	0	0	0	0
94360	Benzoyl peroxide	0	1,750	0	0	0	0	0
67721	Hexachloroethane	0	0	0	0	0	500	0
7782492	Selenium	0	250	0	0	0	1,000	0
100027	4-Nitrophenol	0	0	0	0	0	0	0
98873	Benzal chloride	0	0	0	0	0	500	0
7440417	Beryllium	0	0	0	0	0	0	0
72435	Methoxychlor	0	0	0	0	0	0	0
90040	O-Anisidine	0	2,531	0	0	0	0	0
87683	Hexachloro-1,3-butadiene	0	0	0	0	0	0	0
177817	(invalid no. should be 117817)	0	0	0	0	0	0	0
77474	Hexachlorocyclopentadiene	0	0	0	0	0	0	0
1582098	Trifluralin	0	0	0	0	0	0	0
95807	2,4-diaminotoluene	0	0	0	0	0	0	0
57749	Chlordane	0	0	0	0	0	0	0
120718	p-Cresidine	0	0	0	0	0	0	0
90437	2-Phenylphenol	0	0	0	0	0	0	0
14	Mercury compounds	0	0	0	0	0	32	0
120832	2,4-dichlorophenol	0	0	0	0	0	0	0
2164172	Fluometuron	0	0	0	0	0	0	0
60355	Acetamide	0	0	0	0	0	1,742	0
118741	Hexachlorobenzene	0	0	0	0	0	0	0
139139	Nitrilotriacetic acid	0	0	0	0	0	0	0
3844459	C.I. Acid Blue 9, disodium sal	0	0	0	0	0	0	0
105679	2,4-dimethylphenol	0	0	0	0	0	500	0
1314201	Thorium dioxide	0	0	0	0	0	0	0
96093	Styrene oxide	0	0	0	0	0	0	0
107302	Chloromethyl methyl ether	0	0	0	0	0	771	0
534521	4,6-dinitro-o-cresol	0	0	0	0	0	0	0
106514	Quinone	0	0	0	0	0	0	0
91941	3,3'-dichlorobenzidine	0	0	0	0	0	0	0
57147	1,1-dimethylhydrazine	0	0	0	0	0	0	0
6	Chlorophenols	0	500	0	0	0	0	0
135206	Cupferron	0	0	0	0	0	0	0
134327	Alpha-naphthylamine	0	500	0	0	0	390	0
56382	Parathion	0	0	0	0	0	0	0
88891	Picric acid	0	250	0	0	0	0	0
81072	Saccharin (manufacturing)	0	0	0	0	0	0	0
62737	Dichlorvos	0	0	0	0	0	0	0
58899	Lindane	0	0	61	0	0	0	0
101804	4,4'-diaminodiphenyl ether	0	0	0	0	0	100	0
60344	Methyl hydrazine	0	0	0	0	0	0	0
1336363	Polychlorinated biphenyls (PCS)	0	0	0	0	0	0	0
4	Beryllium compounds	0	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	NT	NC	ND	NE	NN	NJ	RM
95954	2,4,5-TRICHLOROPHENOL	0	0	0	0	0	0	0
39156417	2,4-DIAMINOANISOLE SULFATE	0	0	0	0	0	0	0
133904	CHLORAMBN	0	0	0	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	500	0
94597	SAFROLE	0	0	0	0	0	0	0
90948	NICHLER'S KETONE	0	0	0	0	0	0	0
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	0	0	0	0	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	0	0
82688	QUINTOZONE	0	0	0	0	0	0	0
532274	2-CHLOROACETOPHENONE	0	0	0	0	0	0	0
156105	P-NITROSDIPHENYLAMINE	0	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	0	0
114261	PROPOXUR	0	0	0	0	0	0	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0	0
569642	C.I. BASIC GREEN 4	0	0	0	0	0	2	0
92671	4-AMINOBIPHENYL	0	0	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0	0
615054	2,4-DIAMINOANISOLE	0	0	0	0	0	0	0
87627	2,6-XYLIDINE	0	0	0	0	0	0	0
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0	0
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0	0
96457	ETHYLENE THIOUREA	0	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0	0
51752	NITROGEN MUSTARD	0	0	0	0	0	0	0
86306	N-NITROSDIPHENYLAMINE	0	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0	0
1120714	PROPANE SULFONE	0	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0	0
12122677	ZINEB	0	0	0	0	0	0	0

CAS NO.	CHEMICAL NAME	NV	NY	OH	OK	OR	PA	PR
108883	TOLUENE	256,435	7,808,262	10,685,164	1,786,715	1,776,565	9,869,419	2,165,698
7664417	AMMONIA	75,200	1,783,223	10,212,974	647,647	647,647	4,474,145	126,500
67641	ACETONE	239,050	8,110,030	10,922,514	2,560,534	2,515,154	2,753,420	992,965
67561	METHANOL	0	9,297,198	7,555,558	2,965,559	2,940,899	2,358,309	809,141
75150	CARBON DISULFIDE	0	1,058,650	720,144	370,000	0	377,072	1,101,100
71556	1,1,1-TRICHLOROETHANE	0	7,123,469	9,252,408	443,546	455,896	7,081,576	467,658
78933	METHYL ETHYL KETONE	61,791	3,038,231	11,463,864	684,506	683,922	4,891,559	271,916
1330207	XYLENE (MIXED ISOMERS)	53,200	4,258,806	11,255,581	202,297	209,443	3,876,036	191,879
75092	DICHLOROMETHANE	100	13,241,266	4,133,667	237,584	237,584	6,027,211	1,590,510
7782505	CHLORINE	362,553	513,409	436,797	949,410	949,660	511,726	1,753
1344281	ALUMINUM OXIDE	2,600	1,806,893	2,930,334	991,250	991,250	901,850	250
74851	ETHYLENE	0	47,000	135,530	720	0	205,844	250
7647010	HYDROCHLORIC ACID	56,755	6,357,550	4,038,906	24,176	41,826	3,334,266	95,721
76131	FREON 113	0	3,399,242	656,541	395,389	496,389	1,684,494	1,431,112
79016	TRICHLOROETHYLENE	0	3,321,078	2,025,423	714,407	842,098	2,532,301	0
115071	PROPYLENE	0	8,472	3,556,435	500	250	126,380	250
11	GLYCOL ETHERS	5,430	889,217	4,421,449	165,120	62,200	453,871	0
127184	TETRACHLOROETHYLENE	0	1,402,247	2,173,389	224,440	82,440	546,367	24
71363	n-BUTYL ALCOHOL	0	873,299	2,331,889	372,091	84,412	360,986	51,660
108101	METHYL ISOBUTYL KETONE	0	1,813,956	1,446,205	522,184	522,184	1,287,019	39,340
71432	BENZENE	1,290	1,411,202	2,231,125	1,624	1,444	1,333,314	697,785
100425	STYRENE	81,011	127,307	1,723,661	403,805	221,405	643,228	274
67663	CHLOROFORM	0	32,492	119,797	720,006	638,400	150,457	16,297
74873	CHLOROMETHANE	0	67,000	403,000	0	0	101,753	0
463581	CARBONYL SULFIDE	0	0	220,000	0	0	0	0
7664939	SULFURIC ACID	1,752	169,390	574,914	114,623	122,723	560,733	8,708
50000	FORMALDEHYDE	0	262,820	499,712	2,424,275	2,444,775	92,218	2,700
67630	ISOPROPYL ALCOHOL (MANUFACTUR)	0	427,310	1,174,053	60,244	36,376	412,450	29,144
107211	ETHYLENE GLYCOL	0	448,302	371,959	1,001	1,001	257,066	4,510
10049044	CHLORINE DIOXIDE	0	132,880	15,000	0	618,460	66,500	0
7664393	HYDROGEN FLUORIDE	1,000	765,848	701,091	945,308	12,558	262,660	500
110827	CYCLOHEXANE	0	326,875	1,680,910	58,809	2,809	53,008	508,977
106990	1,3-BUTADIENE	0	250	542,742	22	0	116,004	0
108952	PHENOL	0	275,955	805,012	538,487	496,367	786,181	0
6484522	AMMONIUM NITRATE (SOLUTION)	0	0	43,700	1,750	1,750	5,160,940	0
109864	2-METHOXYETHANOL	0	369,604	1,120,620	3,350	0	1,394,914	17,000
106423	p-XYLENE	0	17,500	0	0	0	4,745	260,000
7697372	NITRIC ACID	0	207,954	418,924	8,885	8,535	403,974	3,622
7429905	ALUMINUM (FUME OR DUST)	0	109,625	406,504	502	250	474,541	0
108054	VINYL ACETATE	0	0	123,939	0	2,000	120,329	1,304
107062	1,2-DICHLOROETHANE	0	126,156	24,380	250	0	235,602	48,310
1310732	SODIUM HYDROXIDE (SOLUTION)	2	401,975	132,373	28,573	58,023	67,694	15,417
75070	ACETALDEHYDE	0	1,400	3,200	0	0	0	0
100414	ETHYLBENZENE	0	26,715	198,446	14,500	500	108,349	100,000
75218	ETHYLENE OXIDE	0	30,247	272,600	9,900	0	164,179	197,491
7757826	SODIUM SULFATE (SOLUTION)	0	6,831	12,210	13	1,110,013	178,795	500
75003	CHLOROETHANE	0	0	531,350	0	0	8,000	0
21	TOTAL FOR MIXTURES	0	247,160	30,715	15,470	17,921	130,746	7,560

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CAS NO.	CHEMICAL NAME	NV	NY	OH	OK	OR	PA	
56235	CARBON TETRACHLORIDE	0	41,532	8,000	1,200	0	123,932	0
107131	ACRYLONITRILE	0	1,450	453,492	0	0	3,144	0
108907	CHLOROBENZENE	0	10,890	1,938,197	0	0	8,171	0
75569	PROPYLENE OXIDE	0	25,000	16,828	3,900	0	11,153	0
98828	CUMENE	0	0	205,763	23,401	0	1,019,300	0
80626	METHYL METHACRYLATE	0	669,610	53,085	0	1,223	357,492	11,500
20	ZINC COMPOUNDS	0	123,889	243,932	102,628	128,052	530,370	0
91203	NAPHTHALENE	0	150,353	331,099	3,650	89,416	256,719	0
7440666	ZINC (FUME OR DUST)	0	35,617	270,531	8,700	9,200	787,109	0
95476	O-XYLENE	0	7,650	250	0	0	36,094	200,057
75058	ACETONITRILE	0	177,860	218,000	0	0	3,400	115,800
9	COPPER COMPOUNDS	0	5,053	15,472	2,002	1	13,326	250
110805	2-ETHOXYETHANOL	0	108,800	268,293	16,738	5,738	19,245	0
108383	M-XYLENE	0	74,530	0	571	0	7,978	270,000
7440508	COPPER	0	26,002	131,610	4,352	4,352	30,620	707
95636	1,2,4-TRIMETHYLBENZENE	0	250	116,472	18,254	9,654	45,246	750
131113	DIMETHYL PHTHALATE	0	4,441	12	0	0	500	0
1634044	METHYL TERT-BUTYL ETHER	0	0	33,800	5,400	0	42,534	87,762
79005	1,1,2-TRICHLOROETHANE	0	113,783	1,244	43,680	0	0	0
123728	BUTYRALDEHYDE	0	0	0	0	0	0	0
13	MANGANESE COMPOUNDS	0	4,435	56,991	11,000	0	19,552	0
117817	DI-(2-ETHYLNEXYL) PHTHALATE	751	3,321	136,350	40,638	40,600	42,778	0
92524	BIPHENYL	0	250	9,659	0	0	53,747	3,400
75014	VINYL CHLORIDE	0	1,980	32,591	68,957	0	219,000	0
7664382	PHOSPHORIC ACID	0	19,065	143,121	3,924	3,424	32,773	2,000
78842	ISOBUTYRALDEHYDE	0	0	0	0	0	0	0
120821	1,2,4-TRICHLOROBENZENE	0	467	943,451	0	0	0	0
7439921	LEAD	100	23,230	95,243	640	0	48,194	175
126998	CHLOROPRENE	0	0	1,500	0	0	0	0
10	CYANIDE COMPOUNDS	0	7,817	5,703	250	0	117,000	250
123386	PROPIONALDEHYDE	0	120	0	0	0	7,600	0
78875	1,2-DICHLOROPROPANE	0	358,000	0	0	0	22,963	0
101688	METHYLENEBIS(PHENYLISOCYANATE)	0	1,955	1,601	23,113	252	34,590	0
3	BARIUM COMPOUNDS	8,521	15,311	95,150	750	500	2,505	0
12	LEAD COMPOUNDS	0	17,584	77,570	19,050	4,612	66,558	270
75650	TERT-BUTYL ALCOHOL	0	84,117	14,009	0	0	1,000	0
75354	VINYLDENE CHLORIDE	0	600	2,500	0	0	0	0
79107	ACRYLIC ACID	0	0	161,339	0	0	6,734	0
1319773	CRESOL (MIXED ISOMERS)	0	11,350	17,990	1,000	0	4,750	0
78922	SEC-BUTYL ALCOHOL	0	15,204	16,784	0	0	2,250	0
7	CHROMIUM COMPOUNDS	0	27,237	26,934	750	123	43,374	250
74839	BROMOMETHANE	0	12,000	0	0	0	40,879	7,140
96333	METHYL ACRYLATE	0	3,710	28,851	0	500	804	0
141322	BUTYL ACRYLATE	0	178,595	11,624	0	1,000	40,455	138
62533	ANILINE	0	17,467	200,670	0	0	500	500
7439965	MANGANESE	18,200	79,892	134,858	1,006	756	40,106	0
7783202	AMMONIUM SULFATE (SOLUTION)	0	1,000	275	0	0	1,491	0
95501	1,2-DICHLOROBENZENE	0	40,156	1,780	0	5,940	30,000	0

CAS NO.	CHEMICAL NAME	NV	NY	OH	OK	OR	PA	PR
74908	HYDROGEN CYANIDE	0	6,560	155,510	0	0	2,120	0
584849	TOLUENE-2,4-DIISOCYANATE	0	3,756	4,265	0	250	162,442	45,356
7440020	NICKEL	0	5,399	18,105	750	500	36,543	0
7440473	CHROMIUM	0	12,011	58,941	8,226	8,202	51,592	0
111422	DIETHANOLAMINE	0	1,450	41,503	1,400	0	20,863	500
108316	MALEIC ANHYDRIDE	0	852	5,124	1,000	250	11,470	0
100210	TEREPHTHALIC ACID	0	5,266	1,000	0	0	750	0
85449	PHTHALIC ANHYDRIDE	0	13,556	13,382	250	250	41,854	0
51796	URETHANE	0	0	0	0	0	0	0
106467	1,4-DICHLOROBENZENE	0	0	7,500	0	0	30,535	0
123911	1,4-DIOXANE	0	88,103	10,790	0	0	500	1,500
84742	DIBUTYL PHTHALATE	0	15,188	502	0	500	750	0
106898	EPICHLOROHYDRIN	0	1,176	4,767	0	1,636	22	1,000
110861	PYRIDINE	0	47,712	29,424	0	0	0	500
79469	2-NITROPROPANE	0	0	17,881	0	0	0	0
120809	CATECHOL	0	0	0	0	0	0	0
15	NICKEL COMPOUNDS	0	3,509	11,823	1,700	0	15,620	500
108781	MELANINE	0	0	9,834	0	250	1,250	0
140885	ETHYL ACRYLATE	0	0	6,648	0	500	34,094	0
120127	ANTHRACENE	0	250	54,844	0	87,225	5,175	0
101779	4,4'-METHYENEDIANILINE	0	36,000	0	0	0	0	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	0	69	175,777	0	0	750	0
85687	BUTYL BENZYL PHTHALATE	0	32,500	22,371	0	0	2,250	0
80159	CUMENE HYDROPEROXIDE	0	500	110,787	0	0	2,250	0
84662	DIETHYL PHTHALATE	0	20,000	3	0	0	13,912	0
7590450	TITANIUM TETRACHLORIDE	0	0	92,540	0	500	0	0
593602	VINYL BROMIDE	0	109,200	0	0	0	0	0
624839	METHYL ISOCTANATE	0	0	0	0	0	0	0
5	CADMIUM COMPOUNDS	0	6,249	2,752	250	0	6,481	0
540590	1,2-DICHLOROETHYLENE	0	0	0	0	0	0	0
2	ARSENIC COMPOUNDS	0	500	250	0	53	502	250
7439976	MERCURY	0	1,347	1,047	0	0	0	1
94757	2,4-D (ACETIC ACID)	0	0	439	0	0	250	0
121697	N,N-DIMETHYLANILINE	0	15,768	500	0	0	250	0
98953	NITROBENZENE	0	27,010	500	0	0	0	0
91087	TOLUENE-2,6-DIISOCYANATE	0	1	2,355	0	250	41,052	0
79345	1,1,2,2-TETRACHLOROETHANE	0	0	0	0	0	500	0
106503	P-PHENYLENEDIAMINE	0	0	117,043	0	0	0	0
103231	BIS(2-ETHYLHEXYL) ADIPATE	0	1,100	43,550	0	0	2,753	0
1313275	MOLYBDENUM TRIOXIDE	0	500	1,050	250	0	5,775	0
7440439	CADMIUM	0	500	502	50	0	2,110	0
1	ANTIMONY COMPOUNDS	0	20	19,418	0	0	914	0
121142	2,4-DINITROTOLUENE	0	0	0	0	0	0	0
7440382	ARSENIC	0	1,568	967	126	0	252	0
106445	P-CRESOL	0	500	0	0	0	2,050	0
75445	PHOSGENE	0	2,411	0	0	0	0	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	0	0	0	0	0	0
106887	1,2-BUTYLENE OXIDE	0	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	NV	NY	ON	OK	OR	PA	PR
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	0	6,910	0	0	0	0
107051	ALLYL CHLORIDE	0	1,500	0	0	0	0	0
7440393	BARIUM	0	5,214	3,248	0	0	2,894	0
98884	BENZOYL CHLORIDE	0	5,050	28,500	0	0	500	0
106934	1,2-DIBROMOETHANE	0	500	13,250	0	0	500	0
132649	DIBENZOFURAN	0	250	11,877	0	49	5,007	0
95487	O-CRESOL	0	34,347	585	0	0	0	0
8	COBALT COMPOUNDS	0	5	2,745	0	0	2,314	0
541731	1,3-DICHLOROBENZENE	0	0	0	0	0	0	0
55630	NITROGLYCERIN	0	0	0	0	0	0	0
1332214	ASBESTOS (FRIABLE)	4	9,505	6,725	0	0	7,550	0
117840	N-DIOCTYL PHTHALATE	0	500	3,066	0	0	10	0
7440484	COBALT	1,000	1,136	1,000	0	0	1,695	0
100447	BENZYL CHLORIDE	0	55	500	500	0	2,027	3,400
107028	ACROLEIN	0	0	0	0	0	0	0
74953	METHYLENE BROMIDE	0	0	0	0	0	0	0
7440360	ANTIMONY	0	250	2,182	500	250	1,431	0
12427382	MANEB	0	0	0	0	0	250	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	0	0	0	0
302012	HYDRAZINE	0	258	46	2	0	0	0
88755	2-NITROPHENOL	0	0	0	0	0	0	0
51285	2,4-DINITROPHENOL	0	93	0	0	0	12,187	0
123319	HYDROQUINONE	0	22,539	420	0	0	0	0
79118	CHLOROACETIC ACID	0	2,401	0	0	0	0	0
1163195	DECABROMODIPHENYL OXIDE	0	0	3,950	0	0	586	0
133062	CAPTAN	0	0	22,200	0	0	255	0
91225	QUINOLINE	0	250	10,910	0	92	440	0
74884	METHYL IODIDE	0	0	25,651	0	0	0	0
98077	BENZOIC TRICHLORIDE	0	3,022	500	0	0	0	0
95534	O-TOLUIDINE	0	17,030	0	0	0	0	0
87865	PENTACHLOROPHENOL	75	0	0	515	8,330	0	0
606202	2,6-DINITROTOLUENE	0	0	0	0	0	0	0
1897456	CHLOROTHALONIL	0	0	0	0	0	250	0
108394	M-CRESOL	0	0	5,873	0	0	3,850	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	0	0	0	0	0
64675	DIETHYL SULFATE	0	0	1,000	0	0	1,468	0
75274	DICHLOROBROMOMETHANE	0	0	0	0	0	0	0
17	SELENIUM COMPOUNDS	0	250	0	0	0	0	0
156627	CALCIUM CYANAMIDE	0	0	0	0	0	0	0
18	SILVER COMPOUNDS	0	5,189	0	0	0	0	0
7440224	SILVER	0	769	633	0	0	0	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	0	0	1,646	0	0	0	0
77781	DIMETHYL SULFATE	0	452	500	0	0	502	0
79061	ACRYLAMIDE	0	0	0	0	0	1,784	0
541413	ETHYL CHLOROFORMATE	0	0	0	0	0	0	500
52686	TRICHLORFON	0	0	0	0	0	0	0
92875	BENZIDINE	0	0	0	0	0	0	0
79210	PERACETIC ACID	0	6,800	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	NV	NY	OH	OK	OR	PA	PR
7440622	VANADIUM (FUME OR DUST)	0	0	750	0	250	563	0
76448	HEPTACHLOR	0	0	0	0	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	0	0	0	0	0	250	0
63252	CARBARYL	0	0	0	0	0	250	0
62566	THIOUREA	0	0	0	0	0	0	0
94360	BENZOYL PEROXIDE	0	1,350	250	250	0	250	0
67721	HEXACHLOROETHANE	0	0	500	0	0	0	0
7782492	SELENIUM	0	0	500	0	0	0	0
100027	4-NITROPHENOL	0	0	0	0	0	0	0
98873	BENZAL CHLORIDE	0	247	0	0	0	0	0
7440417	BERYLLIUM	0	0	1,500	0	0	500	0
72435	METHOXYCHLOR	0	0	0	0	0	0	0
90040	O-ANISIDINE	0	0	0	0	0	0	0
87683	HEXACHLORO-1,3-BUTADIENE	0	24	0	0	0	0	0
177817	(invalid no. should be 117817)	0	0	0	0	0	0	0
77474	HEXACHLOROCYCLOPENTADIENE	0	1,250	0	0	0	0	0
1582098	TRIFLURALIN	0	0	0	0	0	500	0
95807	2,4-DIAMINOTOLUENE	0	0	0	0	0	0	0
57749	CHLORDANE	0	0	0	0	0	0	0
120718	P-CRESIDINE	0	0	2,000	0	0	0	0
90437	2-PHENYLPHENOL	0	0	0	0	0	0	0
14	MERCURY COMPOUNDS	0	500	0	0	0	0	0
120832	2,4-DICHLOROPHENOL	0	0	0	0	0	0	0
2164172	FLUOMETURON	0	0	0	0	0	0	0
60355	ACETAMIDE	0	0	0	0	0	0	0
118741	HEXACHLOROBENZENE	0	0	0	0	0	0	0
139139	NITRILOTRIACETIC ACID	0	0	0	0	0	250	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	0	41	500	0	0	0	0
105679	2,4-DIMETHYLPHENOL	0	0	0	0	0	0	0
1314201	THORIUM DIOXIDE	0	0	0	0	0	0	0
96093	STYRENE OXIDE	0	0	0	0	0	0	0
107302	CHLOROMETHYL METHYL ETHER	0	0	0	0	0	48	0
534521	4,6-DINITRO-O-CRESOL	0	0	0	0	0	0	0
106514	QUINONE	0	0	0	0	0	0	0
91941	3,3'-DICHLOROBENZIDINE	0	2	502	0	0	500	0
57147	1,1-DIMETHYL HYDRAZINE	0	0	0	0	0	0	0
6	CHLOROPHENOLS	0	0	183	0	0	0	0
135206	CUPFERRON	0	0	0	0	0	0	0
134327	ALPHA-NAPHTHYLAMINE	0	0	0	0	0	0	0
56382	PARATHION	0	0	0	0	0	0	0
88891	PICRIC ACID	0	0	0	0	0	0	0
81072	SACCHARIN (MANUFACTURING)	0	0	500	0	0	0	0
62737	DICHLORVOS	0	0	0	0	0	0	500
58899	LINDANE	0	0	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	0	0	0	0	0	0	0
60344	METHYL HYDRAZINE	0	0	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB)	0	0	0	0	250	0	0
4	BERYLLIUM COMPOUNDS	0	1	0	0	0	250	0

CAS NO.	CHEMICAL NAME	NV	NY	OH	OK	OR	PA	
95954	2,4,5-TRICHLOROPHENOL	0	0	0	0	0	0	0
39156417	2,4-DIAMINODANISOLE SULFATE	0	0	500	0	0	0	0
133904	CHLORAMBN	0	0	0	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	0	0
94597	SAFROLE	0	0	0	0	0	0	0
90948	NICHLER'S KETONE	0	0	0	0	0	0	0
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	0	0	0	0	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	0	0
82688	QUINTOZONE	0	0	0	0	0	250	0
532274	2-CHLOROACETOPHEMONE	0	0	0	0	0	0	0
156105	P-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	0	0
114261	PROPOXUR	0	0	0	0	0	0	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0	0
569642	C.I. BASIC GREEN 4	0	0	0	0	0	0	0
92671	4-AMINOBIPHENYL	0	0	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	1	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0	0
615054	2,4-DIAMINODANISOLE	0	0	0	0	0	0	0
87627	2,6-XYLIDINE							
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0	0
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0	
96457	ETHYLENE TRIUREA	0	0	0	0	0	0	
151564	ETHYLENEIMINE	0	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0	0
51752	NITROGEN MUSTARD							
86306	N-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0	0
1120714	PROPANE SULFONE	0	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0	0
12122677	ZINEB	0	0	0	0	0	0	0

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CAS NO.	CHEMICAL NAME	RI	SC	SD	TM	TX	UT	VA
108883	TOLUENE	12,923,306	7,189,570	452,348	12,667,721	9,265,998	290,686	11,551,235
7664417	AMMONIA	7,704	2,655,916	188,861	7,017,425	12,481,487	53,048	1,628,880
67641	ACETONE	753,991	5,330,496	44,100	40,117,471	17,766,947	414,833	14,793,036
67561	METHANOL	172,223	17,254,260	123,250	6,130,214	9,683,553	16,300	15,443,267
75150	CARBON DISULFIDE	0	250	0	22,355,826	2,027,395	0	49,481,000
71556	1,1,1-TRICHLOROETHANE	766,590	3,670,716	82,404	4,672,935	5,530,516	1,641,183	2,722,407
78933	METHYL ETHYL KETONE	927,245	2,595,652	128,533	2,483,094	4,871,448	144,031	7,048,322
1330207	XYLENE (MIXED ISOMERS)	133,394	2,349,139	427,656	4,677,881	6,445,289	452,462	3,382,569
75092	DICHLOROMETHANE	167,323	1,842,418	40,150	2,531,307	3,027,079	940,600	3,987,137
7782505	CHLORINE	1,600	356,338	3,400	1,153,225	2,345,017	68,348,950	2,833,099
1344281	ALUMINUM OXIDE	0	312,767	16,247	98,358	14,323,513	1,708,750	1,787,601
74851	ETHYLENE	0	356,584	0	48,600	41,894,368	5,150	130,462
7647010	HYDROCHLORIC ACID	6,921	1,141,518	0	293,712	3,245,580	1,038,900	2,070,153
76131	FREON 113	202,856	747,118	206,747	750,038	2,599,202	245,519	934,943
79016	TRICHLOROETHYLENE	434,443	1,208,673	17,828	2,005,109	1,803,916	0	518,492
115071	PROPYLENE	0	137,230	0	1,650	24,416,753	86,100	73,781
11	GLYCOL ETHERS	0	1,091,323	45,000	367,912	1,926,492	0	463,567
127184	TETRACHLOROETHYLENE	184,494	743,401	0	402,635	305,425	21,000	120,322
71363	N-BUTYL ALCOHOL	25,500	593,559	0	453,820	4,116,977	18,797	830,387
108101	METHYL ISOBUTYL KETONE	0	495,585	0	1,689,151	753,296	60,703	1,412,304
71432	BENZENE	0	236,923	750	253,570	6,069,308	58,381	642,102
100425	STYRENE	134,567	481,842	37,110	1,544,721	4,013,915	1,178	408,290
67663	CHLOROFORM	0	413,766	0	332,993	854,850	0	3,093,250
74873	CHLOROMETHANE	0	131,037	0	20,530	1,159,674	0	507,200
463581	CARBONYL SULFIDE	0	0	0	10,000,000	658,167	0	0
7664939	SULFURIC ACID	24,083	313,929	250	321,819	2,581,694	223,900	362,949
50000	FORMALDEHYDE	1,001	641,702	89,200	11,843	1,344,042	0	216,075
67630	ISOPROPYL ALCOHOL (MANUFACTUR)	1,214	159,559	0	2,257,298	517,773	500	835,026
107211	ETHYLENE GLYCOL	2,499	1,177,707	0	1,330,548	2,209,787	750	674,308
10049044	CHLORINE DIOXIDE	0	149,761	0	1,140	78,500	0	245,312
7664393	HYDROGEN FLUORIDE	787	94,902	0	439,432	869,287	47,670	4,350
110827	CYCLOHEXANE	12,390	105,800	0	46,747	4,665,128	129,278	25,400
106990	1,3-BUTADIENE	0	14,000	0	683,884	5,902,209	0	35
108952	PHENOL	0	182,002	0	152,262	685,806	1,000	182,096
6484522	AMMONIUM NITRATE (SOLUTION)	0	750	0	0	9,750	0	0
109864	2-METHOXYETHANOL	53,671	1,972,633	0	7,860	73,403	0	0
106423	P-XYLENE	0	848,000	0	754,000	673,398	500	33,900
7697372	NITRIC ACID	2,567	107,736	0	109,666	113,707	151,250	13,059
7429905	ALUMINUM (FUME OR DUST)	0	9,630	0	84,300	180,850	450	4,086
108054	VINYL ACETATE	0	30,488	250	630	4,743,296	0	6,212
107062	1,2-DICHLOROETHANE	500	76,117	0	297,000	595,523	0	321
1310732	SODIUM HYDROXIDE (SOLUTION)	4,480	184,439	1,400	103,829	201,928	2,000	22,715
75070	ACETALDEHYDE	0	1,164,200	0	848,812	1,476,229	0	11,050
100414	ETHYLBENZENE	0	43,500	0	32,704	1,671,983	7,500	70,573
75218	ETHYLENE OXIDE	34,740	146,981	0	17,866	1,545,555	3,818	8,860
7757826	SODIUM SULFATE (SOLUTION)	0	500	0	2,500	265,090	128	49,750
75003	CHLOROETHANE	0	2,194	0	1,000	435,897	0	223,920
21	TOTAL FOR MIXTURES	0	56,550	0	5,546	264,616	250	66,958

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CAS NO.	CHEMICAL NAME	RI	SC	SD	TN	TX	UT	V
56235	CARBON TETRACHLORIDE	0	500	0	598,852	532,147	0	2,000
107131	ACRYLONITRILE	0	337,092	0	2,366	462,659	0	637,772
108907	CHLOROBENZENE	0	112,487	0	24,650	915,792	0	12,754
75569	PROPYLENE OXIDE	0	39,067	0	4,200	1,477,576	0	875
98828	CUMENE	0	0	0	0	806,879	500	19,581
80626	METHYL METHACRYLATE	250	16,592	0	446,242	272,538	17	10,300
20	ZINC COMPOUNDS	765	26,047	0	31,326	272,519	5,150	2,715
91203	NAPHTHALENE	11,000	5,600	500	24,158	580,114	3,810	23,399
7440666	ZINC (FUME OR DUST)	750	183,250	0	47,708	179,768	34,700	69,247
95476	O-XYLENE	0	19,500	0	361,000	532,375	500	41,000
75058	ACETONITRILE	0	0	0	250	269,657	0	0
9	COPPER COMPOUNDS	41,500	17,556	0	2,626	19,218	0	1,539
110805	2-ETHOXYETHANOL	53,844	329,720	0	17,460	117,518	0	53,750
108383	M-XYLENE	0	530	0	82,727	641,767	2,290	91,000
7440508	COPPER	1,253	56,962	0	15,329	188,451	64,172	80,636
95636	1,2,4-TRIMETHYLBENZENE	0	500	0	0	323,768	18,150	87,000
131113	DIMETHYL PHTHALATE	0	32,650	0	1,222	1,410	0	0
1634044	METHYL TERT-BUTYL ETHER	0	0	0	0	1,421,679	0	0
79005	1,1,2-TRICHLOROETHANE	0	0	0	0	86,684	0	0
123728	BUTYRALDEHYDE	0	0	0	60,160	1,177,554	0	500
13	MANGANESE COMPOUNDS	28,500	132,089	0	92,375	5,389	250	587
117817	DI-(2-ETHYLNEXYL) PHTHALATE	740	670	0	53,550	8,560	1,750	172,263
92524	BIPHENYL	0	217,599	500	135,817	33,873	1,000	96,785
75014	VINYL CHLORIDE	0	0	0	0	294,426	0	0
7664382	PHOSPHORIC ACID	1,510	11,987	0	18,115	72,138	750	225,46
78842	ISOBUTYRALDEHYDE	0	73,798	0	6,900	879,407	0	12,450
120821	1,2,4-TRICHLOROBENZENE	10,346	1,000	0	0	4,050	0	84,032
7439921	LEAD	1,021	18,779	0	26,866	105,256	20,425	12,232
126998	CHLOROPRENE	0	0	0	0	245,544	0	0
10	CYANIDE COMPOUNDS	361	1,000	0	3,280	20,200	0	500
123386	PROPIONALDEHYDE	0	352	0	310,650	661,564	0	0
78875	1,2-DICHLOROPROPANE	0	0	0	0	172,220	0	60,000
101688	METHYLENEBIS(PHENYLISOCYANATE)	0	500	0	10,100	105,928	250	552
3	BARIUM COMPOUNDS	0	0	0	4,054	568,493	11,750	22,291
12	LEAD COMPOUNDS	250	22,350	0	5,605	15,682	3,800	2,630
75650	TERT-BUTYL ALCOHOL	0	0	0	0	479,738	0	127,395
75354	VINYLDIENE CHLORIDE	0	0	0	0	22,262	0	11,004
79107	ACRYLIC ACID	0	4,070	0	1,130	503,465	0	49,136
1319773	CRESOL (MIXED ISOMERS)	0	900	0	16,173	14,449	1,250	7,250
78922	SEC-BUTYL ALCOHOL	0	21,329	0	65,484	15,597	0	10,777
7	CHROMIUM COMPOUNDS	0	3,380	0	2,022	165,938	14,450	2,384
74839	BROMOMETHANE	0	220,000	0	0	30,000	0	0
96333	METHYL ACRYLATE	0	16,854	0	1,600	538,789	0	21,500
141322	BUTYL ACRYLATE	0	9,711	0	5,590	53,004	0	500
62533	ANILINE	750	9,473	0	4,110	80,762	0	0
7439965	MANGANESE	0	476	500	2,259	44,316	0	3,205
7783202	AMMONIUM SULFATE (SOLUTION)	0	3,500	0	64,000	75,228	0	0
95501	1,2-DICHLOROBENZENE	1,000	4,933	0	0	106,377	0	0

CAS NO.	CHEMICAL NAME	RI	SC	SD	TN	TX	UT	VA
74908	HYDROGEN CYANIDE	0	62,623	0	0	223,088	48,000	0
584849	TOLUENE-2,4-DIISOCYANATE	500	500	0	1,581	22,916	0	1,000
7440020	NICKEL	750	2,512	0	17,089	9,370	250	1,250
7440473	CHROMIUM	0	27,006	0	3,026	27,601	250	2,355
111422	DIETHANOLAMINE	1,000	1,252	0	1,270	105,671	0	0
108316	MALEIC ANHYDRIDE	0	7,297	0	5,681	238,227	0	500
100210	TEREPHTHALIC ACID	0	186,700	0	25,905	1	0	38,500
85449	PHTHALIC ANHYDRIDE	0	1,270	0	3,220	182,320	0	500
51796	URETHANE	0	0	0	0	250	0	0
106467	1,4-DICHLOROBENZENE	0	0	0	0	10,450	0	0
123911	1,4-DIOXANE	0	15,420	0	44,529	604	0	0
84742	DIBUTYL PHTHALATE	0	750	0	7,757	1,084	0	1,000
106898	EPICHLOROHYDRIN	500	0	0	2,318	98,973	0	0
110861	PYRIDINE	0	0	0	2,434	21,958	0	12,250
79469	2-NITROPROPANE	0	0	0	66	7,597	0	0
120809	CATECHOL	0	1,000	0	0	0	0	270,750
15	NICKEL COMPOUNDS	29,000	1,750	0	2,754	30,514	1,000	0
108781	MELAMINE	0	460	0	0	0	0	250
140885	ETHYL ACRYLATE	0	25,625	0	18,273	28,254	0	500
120127	ANTHRACENE	0	520	250	500	5,085	1,500	1,796
101779	4,4'-METHYENEDIANILINE	0	0	0	0	51,644	0	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	500	0	0	0	12,010	0	0
85687	BUTYL BENZYL PHTHALATE	0	0	0	0	1,100	0	500
80159	CUMENE HYDROPEROXIDE	0	0	0	297	13,550	0	0
84662	DIETHYL PHTHALATE	0	500	0	13,043	11,139	0	0
7550450	TITANIUM TETRACHLORIDE	0	250	0	17,865	9,081	2,700	0
593602	VINYL BROMIDE	0	0	0	0	0	0	0
624839	METHYL ISOCYANATE	0	0	0	0	0	0	0
5	CADMIUM COMPOUNDS	0	0	0	21	0	500	0
540590	1,2-DICHLOROETHYLENE	0	0	0	0	13,128	0	0
2	ARSENIC COMPOUNDS	0	500	0	1,240	4,094	8,150	1,028
7439976	MERCURY	0	0	0	0	1,250	0	0
94757	2,4-D (ACETIC ACID)	0	0	0	0	1	0	0
121697	N,N-DIMETHYLANILINE	0	0	0	41,310	0	0	0
98953	NITROBENZENE	0	250	0	0	41,051	0	0
91087	TOLUENE-2,6-DIISOCYANATE	0	42,375	0	1,334	7,849	0	500
79345	1,1,2,2-TETRACHLOROETHANE	0	0	0	2,420	5,100	0	0
106503	P-PHENYLENEDIAMINE	0	0	0	0	50	0	0
103231	BIS(2-ETHYLHEXYL) ADIPATE	0	600	0	8,040	580	0	2,854
1313275	MOLYBDENUM TRIOXIDE	0	0	0	0	35,538	4,250	0
7440439	CADMIUM	2	1,000	0	0	10,420	0	264
1	ANTIMONY COMPOUNDS	0	1,002	0	0	5,308	0	1,426
121142	2,4-DINITROTOLUENE	0	0	0	0	17,600	0	0
7440382	ARSENIC	0	9,173	0	653	52,858	0	750
106445	P-CRESOL	0	0	0	0	1,110	0	0
75445	PHOSGENE	0	15	0	250	3,503	0	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	1,420	0	0	75,778	0	0
106887	1,2-BUTYLENE OXIDE	0	1,000	0	0	7,518	0	0

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CAS NO.	CHEMICAL NAME	RI	SC	SD	TM	TX	UT	VA
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	250	0	0	1,750	0	0
107051	ALLYL CHLORIDE	0	0	0	0	9,500	0	265
7440393	BARIUM	0	4,043	0	500	1,220	0	1,200
98884	BENZOYL CHLORIDE	250	4	0	26,322	4,085	0	0
106934	1,2-DIBROMOETHANE	0	0	0	0	15,016	0	0
132649	DIBENZOFURAN	0	530	500	500	11,281	1,000	2,815
95487	O-CRESOL	500	0	0	2,000	255	0	0
8	COBALT COMPOUNDS	0	750	0	9,446	23,847	0	490
541731	1,3-DICHLOROBENZENE	0	0	0	0	0	0	0
55630	NITROGLYCERIN	0	0	0	0	0	34	14,000
1332214	ASBESTOS (FRIABLE)	0	496	0	11,844	1,000	0	500
117840	N-DIOCTYL PHTHALATE	0	500	0	0	0	0	500
7440484	COBALT	0	22	0	0	796	0	250
100447	BENZYL CHLORIDE	0	1,000	0	11,832	4,795	0	0
107028	ACROLEIN	0	0	0	0	12,866	0	0
74953	METHYLENE BROMIDE	0	2,472	0	6,903	0	0	0
7440360	ANTIMONY	5	0	0	484	15,266	0	0
12427382	MANEB	0	0	0	0	500	0	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	0	25,800	0	0
302012	HYDRAZINE	0	500	0	802	23,176	0	0
88755	2-NITROPHENOL	0	0	0	0	0	0	0
51285	2,4-DINITROPHENOL	0	0	0	381	3,350	0	0
123319	HYDROQUINONE	0	0	0	600	710	0	0
79118	CHLOROACETIC ACID	0	0	0	172	250	0	17,6
1163195	DECABROMODIPHENYL OXIDE	0	750	0	0	0	0	2,85
133062	CAPTAN	0	0	0	0	433	0	0
91225	QUINOLINE	0	0	500	0	250	0	0
74884	METHYL IODIDE	0	0	0	0	500	0	0
98077	BENZOIC TRICHLORIDE	0	0	0	20,238	0	0	0
95534	O-TOLUIDINE	250	0	0	87	2,400	0	0
87865	PENTACHLOROPHENOL	0	1,240	0	500	0	0	0
606202	2,6-DINITROTOLUENE	0	0	0	0	4,360	0	0
1897456	CHLOROTHALONIL	0	0	0	0	18,500	0	0
108394	M-CRESOL	0	2,882	0	0	0	0	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	0	0	0	0	0
64675	DIETHYL SULFATE	0	0	0	3	11,322	0	0
75274	DICHLOROBROMOMETHANE	0	0	0	0	6,100	0	0
17	SELENIUM COMPOUNDS	0	0	0	2	4,150	0	0
156627	CALCIUM CYANAMIDE	0	0	0	0	0	0	0
18	SILVER COMPOUNDS	0	250	0	0	1,751	0	0
7440224	SILVER	0	0	0	0	250	1,220	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	500	10	0	200	0	0	0
77781	DIMETHYL SULFATE	0	250	0	17	0	0	1,307
79061	ACRYLAMIDE	0	256	0	90	0	0	0
541413	ETHYL CHLOROFORMATE	0	0	0	0	3,300	0	0
52686	TRICHLORFON	0	0	0	0	0	0	0
92875	BENZIDINE	0	0	0	0	0	0	0
79210	PERACETIC ACID	0	0	0	0	0	0	0

CAS NO.	CHEMICAL NAME	RI	SC	SD	TN	TX	UT	VA
7440622	VANADIUM (FUME OR DUST)	0	0	0	0	2,000	0	0
76448	HEPTACHLOR	0	0	0	1,786	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	0	0	0	1,742	1,000	0	0
63252	CARBARYL	0	250	0	0	2,070	0	1,500
62566	THIOUREA	0	0	0	0	750	0	0
94360	BENZOYL PEROXIDE	0	0	0	0	0	0	0
67721	HEXACHLOROETHANE	0	0	0	0	1,550	0	0
7782492	SELENIUM	0	0	0	0	750	0	0
100027	4-NITROPHENOL	0	0	0	2	0	0	0
98873	BENZAL CHLORIDE	0	0	0	4,143	0	0	0
7440417	BERYLLIUM	1,947	0	0	0	0	0	0
72435	METHOXYCHLOR	0	0	0	0	1	0	0
90040	O-ANISIDINE	0	500	0	72	500	0	0
87683	HEXACHLORO-1,3-BUTADIENE	0	0	0	0	1,950	0	0
177817	(invalid no. should be 117817)	0	0	0	0	0	0	0
77474	HEXACHLOROCYCLOPENTADIENE	0	0	0	1,271	0	0	0
1582098	TRIFLURALIN	0	0	0	0	0	0	0
95807	2,4-DIAMINOTOLUENE	0	2,667	0	0	0	0	0
57749	CHLORDANE	0	0	0	1,230	0	0	0
120718	P-CRESIDINE	0	250	0	0	0	0	0
90437	2-PHENYLPHENOL	0	1,000	0	0	0	0	0
14	MERCURY COMPOUNDS	0	341	0	1,244	0	0	0
120832	2,4-DICHLOROPHENOL	0	0	0	500	0	0	0
2164172	FLUMETURON	0	0	0	0	0	0	0
60355	ACETAMIDE	0	0	0	0	0	0	0
118741	HEXACHLOROBENZENE	0	0	0	147	1,180	0	0
139139	NITRILOTRIACETIC ACID	0	0	0	0	1	0	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	0	0	0	0	0	0	0
105679	2,4-DIMETHYLPHENOL	0	0	0	0	376	0	0
1314201	THORIUM DIOXIDE	0	0	0	1,330	0	0	0
96093	STYRENE OXIDE	0	500	0	0	0	0	0
107302	CHLOROMETHYL METHYL ETHER	0	0	0	0	0	0	0
534521	4,6-DINITRO-O-CRESOL	0	0	0	0	1,030	0	0
106514	QUINONE	0	0	0	1,050	3	0	0
91941	3,3'-DICHLOROBENZIDINE	0	0	0	0	0	0	0
57147	1,1-DIMETHYL HYDRAZINE	0	0	0	0	0	0	0
6	CHLOROPHENOLS	0	0	0	0	250	0	0
135206	CUPFERRON	0	0	0	0	140	0	0
134327	ALPHA-NAPHTHYLAMINE	0	0	0	0	0	0	0
56382	PARATHION	0	0	0	0	0	0	0
88891	PICRIC ACID	0	0	0	0	0	0	0
81072	SACCHARIN (MANUFACTURING)	0	0	0	0	0	0	0
62737	DICHLORVOS	0	0	0	0	241	0	0
58899	LINDANE	0	0	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	0	0	0	0	0	0	0
60344	METHYL HYDRAZINE	0	0	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB	0	0	0	0	1	0	0
4	BERYLLIUM COMPOUNDS	0	0	0	1	0	0	0

CAS NO.	CHEMICAL NAME	RI	SC	SD	TN	TX	UT	VA
95954	2,4,5-TRICHLOROPHENOL	500	0	0	0	0	0	0
39156417	2,4-DIAMINOANISOLE SULFATE	0	0	0	0	0	0	0
133904	CHLORAMBEN	0	0	0	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	0	0
94597	SAFROLE	0	0	0	0	500	0	0
90948	NICHLER'S KETONE	0	0	0	0	0	0	0
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	0	0	0	300	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	0	0
82688	QUINTOZONE	0	0	0	0	0	0	0
532274	2-CHLOROACETOPHENONE	0	0	0	0	0	0	0
156105	P-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	0	0
114261	PROPOLUR	0	0	0	0	1	0	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0	0
569642	C.I. BASIC GREEN 4	0	0	0	0	0	0	0
92671	4-AMINOBIIPHENYL	0	0	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0	0
615054	2,4-DIAMINOANISOLE	0	0	0	0	0	0	0
87627	2,6-XYLIDINE							
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0	
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0	
115322	DICOFOL	0	0	0	0	0	0	0
96457	ETHYLENE THIOUREA	0	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0	0
51752	NITROGEN MUSTARD							
86306	N-NITROSODIPHENYLAMINE	0	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0	0
1120714	PROPANE SULTONE	0	0	0	0	0	0	0
106949	P-ANISIDINE	0	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0	0
12122677	ZINER	0	0	0	0	0	0	0

VVV 000010367

CAS NO.	CHEMICAL NAME	VI	VT	VA	WI	WV	WT
108883	TOLUENE	155,677	280,515	2,196,664	4,708,601	2,310,824	527,011
7664417	AMMONIA	0	6,200	2,431,590	2,918,623	1,437,706	639,307
67641	ACETONE	0	35,002	1,471,116	2,224,894	1,001,921	0
67561	METHANOL	1,400	38,247	4,179,256	3,599,418	5,476,854	30,730
75150	CARBON DISULFIDE	0	0	0	55,250	556,039	0
71556	1,1,1-TRICHLOROETHANE	129,731	259,631	1,977,156	4,725,674	82,219	30,000
78933	METHYL ETHYL KETONE	0	95,909	3,760,351	4,235,149	438,679	83,000
1330207	XYLENE (MIXED ISOMERS)	481,968	123,968	1,033,038	4,715,347	994,347	394,956
75092	DICHLOROMETHANE	0	3,700	1,221,218	1,524,412	1,494,024	0
7782505	CHLORINE	0	270	898,782	1,208,122	101,263	9,370
1344281	ALUMINUM OXIDE	0	8,820	10,952,972	623,688	1,144,792	211,280
74851	ETHYLENE	0	0	8,200	0	119,300	58,400
7647010	HYDROCHLORIC ACID	2,600	3,131	339,631	2,748,538	196,559	3,049
76131	FREON 113	0	176,000	344,806	743,598	481,250	0
79016	TRICHLOROETHYLENE	0	7,180	476,310	1,102,942	315,234	0
115071	PROPYLENE	0	0	82,250	1,210	2,176,290	167,000
11	GLYCOL ETHERS	0	3,300	333,123	1,544,835	140,418	0
127184	TETRACHLOROETHYLENE	0	33,170	10,000	141,033	3,500	0
71363	N-BUTYL ALCOHOL	0	22,775	533,277	944,138	286,934	60,000
108101	METHYL ISOBUTYL KETONE	0	61,430	215,980	251,476	214,206	0
71432	BENZENE	0	0	433,195	16,516	1,456,013	98,732
100425	STYRENE	0	0	1,720,722	369,007	876,035	500
67663	CHLOROFORM	0	0	1,688,569	892,309	1,260,325	0
74873	CHLOROMETHANE	0	0	0	172,920	884,220	0
463581	CARBONYL SULFIDE	0	0	0	0	182,743	0
7664939	SULFURIC ACID	1,205	12,414	194,986	375,731	45,930	23,773
50000	FORMALDEHYDE	0	1,135	56,080	754,826	196,144	6,120
67630	ISOPROPYL ALCOHOL (MANUFACTUR)	0	128,000	48,148	134,081	31,528	4,000
107211	ETHYLENE GLYCOL	0	0	871	177,845	967,819	2,200
10049044	CHLORINE DIOXIDE	0	0	956,886	460,250	0	0
7664393	HYDROGEN FLUORIDE	0	2,700	1,206,798	5,908	267,622	30,983
110827	CYCLOHEXANE	0	0	33,885	29,577	82,881	117,566
106990	1,3-BUTADIENE	0	0	9,900	0	706,113	0
108952	PHENOL	0	0	33,886	531,835	24,335	24,450
6484522	AMMONIUM NITRATE (SOLUTION)	0	0	250	0	0	28,000
109864	2-METHOXYETHANOL	0	0	0	1,056,508	16,570	0
106423	P-XYLENE	151,000	0	0	165,730	26,200	0
7697372	NITRIC ACID	0	4,664	12,150	328,939	34,200	33,297
7429905	ALUMINUM (FUME OR DUST)	0	500	26,325	588,034	4,878	0
108054	VINYL ACETATE	0	0	0	250	64,000	500
107062	1,2-DICHLOROETHANE	0	0	0	0	736,000	0
1310732	SODIUM HYDROXIDE (SOLUTION)	500	500	140,460	249,132	5,058	10,711
75070	ACETALDEHYDE	0	0	0	0	147,879	0
100414	ETHYLBENZENE	0	0	33,392	156,328	105,934	77,202
75218	ETHYLENE OXIDE	0	0	0	62,250	114,081	0
7757826	SODIUM SULFATE (SOLUTION)	0	0	199	159,250	0	0
75003	CHLOROETHANE	0	0	0	0	0	0
21	TOTAL FOR MIXTURES	0	0	1,450	519,258	1,000	0

VVV 000010368

CAS NO.	CHEMICAL NAME	VI	VT	WA	WI	WW	WY
56235	CARBON TETRACHLORIDE	0	0	0	0	201,335	0
107131	ACRYLONITRILE	0	0	0	1,910	1,210,538	0
108907	CHLOROBENZENE	0	0	0	0	152,600	0
75569	PROPYLENE OXIDE	0	0	0	38,590	378,789	0
98828	CUMENE	0	0	250	11,363	65,000	0
80626	METHYL METHACRYLATE	0	0	0	9,020	244,714	0
20	ZINC COMPOUNDS	0	0	6,350	32,909	250	0
91203	NAPHTHALENE	0	0	26,043	42,706	175,417	3,200
7440666	ZINC (FUME OR DUST)	0	0	17	201,779	27,689	0
95476	O-XYLENE	0	0	15,000	54,439	35,100	0
75058	ACETONITRILE	0	0	0	0	0	0
9	COPPER COMPOUNDS	0	0	250	12,050	1,150	0
110805	2-ETHOXYETHANOL	0	0	16,263	90,600	48,931	0
108383	M-XYLENE	0	0	0	183,879	78,500	0
7440508	COPPER	0	250	2,285	7,911	94,313	0
95636	1,2,4-TRIMETHYLBENZENE	0	0	41,248	106,912	150,936	115,000
131113	DIMETHYL PHTHALATE	0	0	523,129	15,250	0	0
1634044	METHYL TERT-BUTYL ETHER	0	0	0	24,660	0	2,615
79005	1,1,2-TRICHLOROETHANE	0	0	38,000	0	0	0
123728	BUTYRALDEHYDE	0	0	0	0	70,850	0
13	MANGANESE COMPOUNDS	0	0	250	12,060	1,030	0
117817	DI-(2-ETHYLNEXYL) PHTHALATE	0	250	0	1,037	0	0
92524	BIPHENYL	0	0	8,861	1,249	3,559	0
75014	VINYL CHLORIDE	0	0	0	0	0	0
7664382	PHOSPHORIC ACID	0	750	1,000	61,828	834	31,348
78842	ISOBUTYRALDEHYDE	0	0	0	0	5,200	0
120821	1,2,4-TRICHLOROBENZENE	0	0	0	0	2,450	0
7439921	LEAD	0	127	6,480	3,927	6,697	0
126998	CHLOROPRENE	0	0	0	0	0	0
10	CYANIDE COMPOUNDS	0	0	71	1,865	744,500	0
123386	PROPIONALDEHYDE	0	0	0	0	0	0
78875	1,2-DICHLOROPROPANE	0	0	0	128,600	0	0
101688	METHYLENEBIS(PHENYLISOCYANATE)	0	0	250	2,750	0	0
3	BARIUM COMPOUNDS	0	87	86,000	8,112	350	0
12	LEAD COMPOUNDS	0	0	1,357	5,700	0	0
75650	TERT-BUTYL ALCOHOL	0	0	0	0	0	0
75354	VINYLDENE CHLORIDE	0	0	0	0	15,000	0
79107	ACRYLIC ACID	0	0	0	1,250	23,300	500
1319773	CRESOL (MIXED ISOMERS)	0	0	500	0	3,320	0
78922	SEC-BUTYL ALCOHOL	0	0	0	500	23,684	0
7	CHROMIUM COMPOUNDS	0	500	1,401	23,644	2,118	0
74839	BROMOMETHANE	0	0	0	0	0	0
96333	METHYL ACRYLATE	0	0	0	300	0	0
141322	BUTYL ACRYLATE	0	0	0	2,500	0	0
62533	ANILINE	0	0	0	503	143,340	0
7439965	MANGANESE	0	0	4,468	80,291	30,706	0
7783202	AMMONIUM SULFATE (SOLUTION)	0	0	65	16,500	0	0
95501	1,2-DICHLOROBENZENE	0	0	0	0	21,400	0

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CAS NO.	CHEMICAL NAME	VI	VT	WA	WI	WV	WY
74908	HYDROGEN CYANIDE	0	0	0	0	5,023	0
584849	TOLUENE-2,4-DIISOCYANATE	0	0	27,784	1,500	14,300	0
7440020	NICKEL	0	5,750	1,777	6,766	3,950	0
7440473	CHROMIUM	0	3,120	4,212	8,577	2,780	0
111422	DIETHANOLAMINE	0	0	0	1,870	1,041	10,341
108316	MALEIC ANHYDRIDE	0	0	0	1,000	6,900	0
100210	TEREPHTHALIC ACID	0	0	0	500	7,750	0
85449	PHTHALIC ANHYDRIDE	0	0	0	2,000	250	0
51796	URETHANE	0	0	0	0	0	0
106467	1,4-DICHLOROBENZENE	0	0	0	0	270,400	0
123911	1,4-DIOXANE	0	0	0	0	0	250
84742	DIBUTYL PHTHALATE	0	0	0	304	0	0
106898	EPICHLOROHYDRIN	0	0	0	6,400	3,500	0
110861	PYRIDINE	0	0	0	0	3,317	0
79469	2-NITROPROPANE	0	0	0	250	0	0
120809	CATECHOL	0	0	0	0	0	0
15	NICKEL COMPOUNDS	0	0	250	4,219	9,800	0
108781	MELAMINE	0	0	499	551	0	0
140885	ETHYL ACRYLATE	0	0	0	1,000	9,200	0
120127	ANTHRACENE	0	0	72	4,138	3,763	0
101779	4,4'-METHYLENEDIANILINE	0	0	0	0	107	0
80057	4,4'-ISOPROPYLIDENEDIPHENOL	0	0	0	1,500	0	0
85687	BUTYL BENZYL PHTHALATE	0	0	0	777	0	0
80159	CUMENE HYDROPEROXIDE	0	0	1	2,567	6,800	0
84662	DIETHYL PHTHALATE	0	0	0	0	0	0
7550450	TITANIUM TETRACHLORIDE	0	0	0	0	57	0
593602	VINYL BROMIDE	0	0	0	0	0	0
624839	METHYL ISOCYANATE	0	0	0	0	5,084	0
5	CADMIUM COMPOUNDS	0	0	250	0	1	0
540590	1,2-DICHLOROETHYLENE	0	0	0	24,176	0	0
2	ARSENIC COMPOUNDS	0	0	1	0	0	0
7439976	MERCURY	0	0	0	5	3,512	0
94757	2,4-O (ACETIC ACID)	0	0	0	0	0	0
121697	N,N-DIMETHYLANILINE	0	0	0	0	154	0
98953	NITROBENZENE	0	0	0	0	0	0
91087	TOLUENE-2,6-DIISOCYANATE	0	0	7,141	1,000	3,660	0
79345	1,1,2,2-TETRACHLOROETHANE	0	0	0	0	0	0
106503	P-PHENYLENEDIAMINE	0	0	0	0	0	0
103231	BIS(2-ETHYLHEXYL) ADIPATE	0	0	0	0	0	0
1313275	MOLYBDENUM TRIOXIDE	0	0	0	0	0	0
7440439	CADMIUM	0	0	4	150	0	0
1	ANTIMONY COMPOUNDS	0	0	0	750	5	0
121142	2,4-DINITROTOLUENE	0	0	0	0	0	0
7440382	ARSENIC	0	0	0	1	0	0
106445	P-CRESOL	0	0	0	0	0	0
75445	PHOSGENE	0	0	0	0	1,792	0
25376458	DIAMINOTOLUENE (MIXED ISOMERS)	0	0	0	0	0	0
106887	1,2-BUTYLENE OXIDE	0	0	0	0	4,400	0

VVV 000010370

CAS NO.	CHEMICAL NAME	VI	VT	WA	WI	WV	WY
25321226	DICHLOROBENZENE (MIXED ISOMERS)	0	0	0	0	750	0
107051	ALLYL CHLORIDE	0	0	0	0	0	0
7440393	BARIUM	0	0	0	110	0	0
98884	BENZOYL CHLORIDE	0	0	0	0	0	0
106934	1,2-DIBROMOETHANE	0	0	0	0	0	0
132649	DIBENZOFURAN	0	0	813	861	3,064	0
95487	O-CRESOL	0	0	0	55	0	0
8	COBALT COMPOUNDS	0	0	0	0	0	0
541731	1,3-DICHLOROBENZENE	0	0	0	0	3,150	0
55630	NITROGLYCERIN	0	0	0	0	0	0
1332214	ASBESTOS (FRIABLE)	0	0	549	0	0	0
117840	N-DIOCTYL PHTHALATE	0	0	2,846	0	0	0
7440484	COBALT	0	0	0	750	22,146	0
100447	BENZYL CHLORIDE	0	0	0	250	0	0
107028	ACROLEIN	0	0	0	0	0	0
74953	METHYLENE BROMIDE	0	0	0	0	0	0
7440360	ANTIMONY	0	180	250	754	0	0
12427382	MANEB	0	0	0	0	0	0
542756	1,3-DICHLOROPROPYLENE	0	0	0	0	0	0
302012	HYDRAZINE	0	0	0	0	0	0
88755	2-NITROPHENOL	0	0	0	0	0	0
51285	2,4-DINITROPHENOL	0	0	0	0	0	0
123319	HYDROQUINONE	0	0	0	3,750	750	0
79118	CHLOROACETIC ACID	0	0	0	0	0	0
1163195	DECA-BROMODIPHENYL OXIDE	0	0	0	0	0	0
133062	CAPTAN	0	0	0	0	0	0
91225	QUINOLINE	0	0	868	0	2,711	0
74884	METHYL IODIDE	0	0	0	0	0	0
98077	BENZOIC TRICHLORIDE	0	0	0	0	0	0
95534	O-TOLUIDINE	0	0	0	0	0	0
87865	PENTACHLOROPHENOL	0	0	2,013	63	0	0
606202	2,6-DINITROTOLUENE	0	0	0	0	0	0
1897456	CHLOROTHALONIL	0	0	0	0	0	0
108394	M-CRESOL	0	0	0	0	0	0
101611	4,4'-METHYLENEBIS(N,N-DIMETHYL	0	0	0	0	0	0
64675	DIETHYL SULFATE	0	0	0	250	0	0
75274	DICHLOROBROMOMETHANE	0	0	0	0	0	0
17	SELENIUM COMPOUNDS	0	0	0	0	0	0
156627	CALCIUM CYANAMIDE	0	0	0	0	0	0
18	SILVER COMPOUNDS	0	0	0	0	0	0
7440224	SILVER	0	0	0	0	0	0
7723140	PHOSPHORUS (YELLOW OR WHITE)	0	0	0	0	0	0
77781	DIMETHYL SULFATE	0	0	0	500	2,209	0
79061	ACRYLAMIDE	0	0	0	0	0	0
541413	ETHYL CHLOROFORMATE	0	0	0	0	6,825	0
52686	TRICHLORFON	0	0	0	0	0	0
92875	BENZIDINE	0	0	0	0	0	0
79210	PERACETIC ACID	0	0	0	0	0	0

CAS NO.	CHEMICAL NAME	VI	VT	WA	WI	WW	WY
7440622	VANADIUM (FUME OR DUST)	0	0	0	0	0	0
76648	HEPTACHLOR	0	0	0	0	0	0
111444	BIS(2-CHLOROETHYL) ETHER	0	0	0	0	0	0
63252	CARBARYL	0	0	0	0	152	0
62566	THIOUREA	0	0	0	0	0	0
94360	BENZOYL PEROXIDE	0	0	0	500	0	0
67721	HEXACHLOROETHANE	0	0	0	0	0	0
7782492	SELENIUM	0	0	0	250	0	0
100027	4-NITROPHENOL	0	0	0	0	0	0
98873	BENZAL CHLORIDE	0	0	0	0	0	0
7440417	BERYLLIUM	0	0	0	0	0	0
72435	METHOXYCHLOR	0	0	0	3,600	0	0
90040	O-AMISIDINE	0	0	0	0	0	0
87683	HEXACHLORO-1,3-BUTADIENE	0	0	0	0	0	0
177817	(invalid no. should be 117817)	0	0	0	0	0	0
77474	HEXACHLOROCYCLOPENTADIENE	0	0	0	0	0	0
1582098	TRIFLURALIN	0	0	0	0	0	0
95807	2,4-DIAMINOTOLUENE	0	0	0	0	0	0
57749	CHLORDANE	0	0	0	0	0	0
120718	P-CRESIDINE	0	0	0	0	0	0
90437	2-PHENYLPHENOL	0	0	0	0	0	0
14	MERCURY COMPOUNDS	0	0	0	0	1	0
120832	2,4-DICHLOROPHENOL	0	0	0	0	0	0
2164172	FLUOMETURON	0	0	0	0	0	0
60355	ACETAMIDE	0	0	0	0	0	0
118741	HEXACHLOROBENZENE	0	0	0	0	0	0
139139	NITRILOTRIACETIC ACID	0	0	0	0	0	0
3844459	C.I. ACID BLUE 9, DISODIUM SAL	0	0	0	0	0	0
105679	2,4-DIMETHYLPHENOL	0	0	500	0	0	0
1314201	THORIUM DIOXIDE	0	0	0	0	0	0
96093	STYRENE OXIDE	0	0	0	0	0	0
107302	CHLOROMETHYL METHYL ETHER	0	0	0	0	0	0
534521	4,6-DINITRO-O-CRESOL	0	0	0	0	0	0
106514	QUINONE	0	0	0	0	0	0
91941	3,3'-DICHLOROBENZIDINE	0	0	0	0	0	0
57147	1,1-DIMETHYL HYDRAZINE	0	0	0	0	0	0
6	CHLOROPHENOLS	0	0	0	0	0	0
135206	CUPFERON	0	0	90	0	0	0
134327	ALPHA-NAPHTHYLAMINE	0	0	0	0	0	0
56382	PARATHION	0	0	0	0	0	0
88891	PICRIC ACID	0	0	0	0	0	0
81072	SACCHARIN (MANUFACTURING)	0	0	0	250	0	0
62737	DICHLORVOS	0	0	0	0	0	0
58899	LINDANE	0	0	0	0	0	0
101804	4,4'-DIAMINODIPHENYL ETHER	0	0	0	0	0	0
60344	METHYL HYDRAZINE	0	0	0	0	0	0
1336363	POLYCHLORINATED BIPHENYLS (PCB)	0	0	0	0	0	0
4	BERYLLIUM COMPOUNDS	0	0	0	0	0	0

VVV 000010372

CAS NO.	CHEMICAL NAME	VI	VT	WA	WI	WV	WY
95954	2,4,5-TRICHLOROPHENOL	0	0	0	0	0	0
39156417	2,4-DIAMINOANISOLE SULFATE	0	0	0	0	0	0
133904	CHLORANBEN	0	0	0	0	0	0
75558	PROPYLENEIMINE	0	0	0	0	0	0
94597	SAFROLE	0	0	0	0	0	0
90948	NICHLER'S KETONE	0	0	0	0	0	0
101144	4,4'-METHYLENEBIS(2-CHLORO ANI	0	0	0	0	0	0
510156	CHLOROBENZILATE	0	0	0	0	0	0
82688	QUINTOZONE	0	0	0	0	0	0
532274	2-CHLOROACETOPHENONE	0	0	0	0	0	0
156105	P-NITROSODIPHENYLAMINE	0	0	0	0	0	0
19	THALLIUM COMPOUNDS	0	0	0	0	0	0
114261	PROPONUR	0	0	0	0	0	0
842079	C.I. SOLVENT YELLOW 14	0	0	0	0	0	0
569642	C.I. BASIC GREEN 4	0	0	0	0	0	0
92671	4-AMINOBIPHENYL	0	0	0	0	0	0
542881	BIS(CHLOROMETHYL) ETHER	0	0	0	0	0	0
88062	2,4,6-TRICHLOROPHENOL	0	0	0	0	0	0
615054	2,4-DIAMINOANISOLE	0	0	0	0	0	0
87627	2,6-XYLIDINE	0	0	0	0	0	0
60093	4-AMINOAZOBENZENE	0	0	0	0	0	0
99592	5-NITRO-O-ANISIDINE	0	0	0	0	0	0
2650182	C.I. ACID BLUE 9, DIAMMONIUM S	0	0	0	0	0	0
97563	C.I. SOLVENT YELLOW 3	0	0	0	0	0	0
115322	DICOFOL	0	0	0	0	0	0
96457	ETHYLENE THIOUREA	0	0	0	0	0	0
151564	ETHYLENEIMINE	0	0	0	0	0	0
1335871	HEXACHLORONAPHTHALENE	0	0	0	0	0	0
10034932	HYDRAZINE SULFATE	0	0	0	0	0	0
51752	NITROGEN MUSTARD	0	0	0	0	0	0
86306	M-NITROSODIPHENYLAMINE	0	0	0	0	0	0
2234131	OCTACHLORONAPHTHALENE	0	0	0	0	0	0
16	POLY BROMINATED BIPHENYLS	0	0	0	0	0	0
1120714	PROPANE SULTONE	0	0	0	0	0	0
104949	P-ANISIDINE	0	0	0	0	0	0
961115	TETRACHLORVINPHOS	0	0	0	0	0	0
7440280	THALLIUM	0	0	0	0	0	0
12122677	ZINEB	0	0	0	0	0	0

VVV 000010373

Vista Chemical Company

15990 North Barker's Landing Road
Post Office Box 19029

Houston, Texas 77224
Phone (713) 531-3200

April 10, 1989

TGG: JCL: MMG: AJO: 8F

XF: _____

VISTA

Mr. Doug Bates
Polymer Fabrications
402 SW 15th
Wagoner, OK 74477

Dear Mr. Bates:

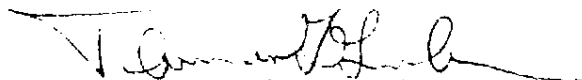
On March 20th, Paula Hubbard notified me that you had indicated three of your employees had experienced unusual "rashes" after handling a Vista PVC dryblend. Based on what was described to Paula, It appears the symptoms experienced are of an unusual nature and extent and unexpected as a result of contact with dryblend.

Vista is investigating shipment samples to determine if there are differences in the batch the plant was handling during the period your employees experienced the rash. In addition to this, we are under regulatory obligation to establish and maintain records of allegations of health effects resulting from our products. This is required by Section 8(c) of the Toxic Substances Control Act.

To meet this obligation we are asking you to complete the attached form with details regarding the health effects experienced and what employees were effected. The form should be returned to me in Houston.

Please contact me at 713-531-3445 if you have questions regarding completion of the form. We will inform you of any significant results from our internal investigation.

Sincerely,



Thomas G. Grumbles, C.I.H.
Environmental Quality Manager

dlj

cc: P. Hubbard, W. C. McClain

VVV 000010374



**Report of a Possible Adverse
Effect To Health or the
Environment**

If you think a chemical substance or mixture has caused an adverse human effect, identify that substance and describe how affected. If you think the environment (for example, the air, water, soil, animals, or plants) has been adversely affected by one of the facility's chemical substances or mixtures, identify the substance (if known) and the affected plant and/or animal or contaminated area of the environment.

If you cannot identify the suspected chemical substance or mixture, identify the product, material, or item believed to be the cause of the adverse effect or describe the process or operation or the effluent, emission, or discharge from the facility that you think has caused the adverse effect.

Signature of Reporter

Date of Report

Name of Reporter (Printed)

Date Adverse Effect Occured

Send Completed Form To:

VVV 000010375

Thomas G. Grumbles

VISTA

TGG: JCL: MMS: AJO: RF

XF: 412

Date

To Safety Directors

The attached article gives
some good practical
advice on hearing protector
selection.

Please Read the "conclusion"
section.

TGG

File - 412

VVV 000010376

Insert-Type Hearing Protector Stability as a Function of Controlled Jaw Movement*

GORDON L. CLUFF

Department of Speech and Hearing Science, Arizona State University, Tempe, AZ 85287-0102

Samples of five insert-type hearing protectors (three viscose foam, one poly-flanged, and one glass fiber) were evaluated for change in attenuation as a result of 30 min of controlled jaw movement. Protected-ear, narrow-band noise thresholds were obtained at octave intervals (between 0.25 and 4.0 kHz) before and after the jaw-movement activity. Frequency and interaction effects were not significant. Protector effects were significant beyond the 0.01 level of probability that chance caused the observed differences. As a group, the viscose foam protectors were more stable than the others. The most stable protector was E.A.R., and the least stable was Bilsom Soft.

Introduction

Personal hearing protection currently is accepted as a primary means of preventing hearing loss from noise exposure.⁽¹⁾ Recent studies indicate that the amount of protection obtained from protective devices used on the job is significantly less than is obtained under laboratory conditions.⁽²⁻¹¹⁾ Three causes are hypothesized: (1) the person using the devices may not insert them in the ear canal correctly⁽⁴⁾; (2) ear canal variations may prevent proper insertion or seal therein; and (3) movements of the jaw and head over time degrade the fit of the protector in the canal.⁽¹²⁻¹⁴⁾

Problem

During personal interviews with over 1000 noise-exposed employees, the author encountered comments to the effect that insert-type protectors, after having been fitted within the ear canal, tend to work loose. Accordingly, it is hypothesized that one reason for poor performance of these devices in the field is that they do not maintain a proper fit after having been inserted. A secondary hypothesis is that there are differences among insert-type protectors in their ability to maintain a proper fit.

The two hypotheses above form the basis for this investigation. First, to what degree does controlled jaw movement over time contribute to change in attenuation provided by selected insert-type hearing protectors? Second, are there differences among the selected protectors in their ability to provide stable attenuation under these conditions?

Experimental Materials and Methods

Data were collected from 23 young adults drawn from the largely-female, undergraduate student population enrolled in speech and hearing science classes at Arizona State University. All had normal hearing, which was defined as (1) a Type A tympanogram with maximum compliance within a

range of ± 50 mmH₂O, (2) pure tone thresholds not exceeding 20 dB HL between 0.25 and 4.0 kHz, and (3) no visible structural abnormalities in the ear canal. Five different hearing protectors were used that sampled the insert-type devices commercially available (except for custom molded devices.) The following five devices were used:

- Bilsom Soft (Bilsom International, Inc., Reston, Va.)—plastic encased glass fiber with a foam core;
- Com-fit (North Health Care, Division of Siebe North, Inc., Rockford, Ill.)†—triple flanged, solid core;
- 3M-6300 (3M Company, St. Paul, Minn.)—conical, self-expanding viscose foam with a relatively smooth, even-textured surface;
- Pura-Foam (Moldex/Metric, Inc., Culver City, Calif.)—cylindrical, self-expanding viscose foam with a relatively coarse uneven-textured surface;
- E.A.R. (E.A.R., Division of Cabot Corp., Indianapolis, Ind.)**—cylindrical, self-expanding viscose foam with a relatively coarse, even-textured surface.

Time and other constraints did not allow a broader sampling of insert-type protectors, though there are numerous other brands available.

The subjects were tested by a technician, within a sound-treated test room, at a distance of approximately 1 m (39 in.) from, and in front of, a loud speaker. The subject's head was held in position during testing by having him/her maintain light contact between the tip of the nose and a small but heavy cylinder suspended by a nylon cord from a fixed point on the ceiling of the test room. This method of maintaining head

†Com-fit devices are manufactured in three sizes (small, medium and large). The large size was not included within this study because there were no subjects wherein a large size was indicated, based on the judgment for proper fit made by the technician.

**Note: It has been reported to the author that Decidamp viscose foam protectors (North Health Care) are structurally identical to the E.A.R. protectors evaluated herein.

*This project was supported in part by Biomedical Research Support Grant S07 RR07112, awarded to Arizona State University by the Biomedical Research Support Grant Program, Division of Research Resources, National Institutes of Health.

position during testing is suggested by the American National Standards Institute (ANSI).⁽¹⁵⁾ The point of nose contact on the cylinder for each subject was constant for that subject across all threshold measures.

The test stimulus was a speaker-delivered, narrow band of gaussian noise generated by a GSI-10 audiometer, the center frequency of which varied in one-octave intervals between 0.25 and 4.0 kHz. Fixed-frequency Bekesy tracings were obtained using a 1-min test time at each center frequency and an attenuator slew rate of 2.5 dB/sec. The noise was pulsed using a 400-msec duty cycle.

The order of testing across the various noise bands was constant from the lowest to the highest center frequency for all 115 test sessions. The order of protectors was selected randomly for each subject. Each subject-testing session was conducted in the following order. (1) Written instructions, approved by the author, pertaining to the method of insertion of the hearing protector to be used and the threshold procedures to be followed were read to the subject by the technician. (2) An open-ear, prechewing reference threshold was obtained at 1.0 kHz. (3) The subject inserted the hearing protectors, and then proper fit was determined by the judgment of the subject that the protectors felt tight and the technician's observation that they were fully inserted into the ear canal. The plastic insertion cylinders provided by Com-fit were not used for those protectors. (4) Occluded-ear thresholds were obtained at 0.25, 0.5, 1.0, 2.0, and 4.0 kHz. (5) The subject chewed gum at a constant rate of one jaw stroke per second for 30 min, during which time he/she was not allowed to adjust the fit of the protectors. (6) At the end of the 30 min of chewing, a second set of occluded-ear thresholds was obtained for the same test frequencies as given in Step 4. (7) The protectors were removed, and a postchewing reference threshold was obtained at 1.0 kHz.

The prechewing and postchewing open-ear reference thresholds at 1.0 kHz were obtained to establish the test-retest reliability of postchewing, occluded-ear thresholds compared to similar prechewing thresholds. The reasoning was that if the postchewing, open-ear thresholds were essentially the same as their prechewing counterparts, a strong argument for test-condition stability (and hence, test-results reliability) could be made.

Though the noise level at a typical subject's ear location (the subject not present), with the reference output of the audiometer set at 70dB HL, was measured periodically throughout the study using a precision sound level meter (and maintained within a narrow range); absolute sound levels were of incidental interest. The primary value of concern was change in the measured occluded-ear thresholds between the prechewing and postchewing activity. As long as the reference sound level was constant at these two points in time with respect to each test session, adequate instrumental accuracy was considered to have been maintained. The fact of this condition will be discussed later within the context of test-retest reliability.

Each subject was tested five different times, each time with a different hearing protector. The order of testing the protec-

tors among the 23 subjects was varied so that sequence and practice effects were distributed randomly across the 115 test sessions. The resulting Bekesy self-recording audiometer tracings were converted to numeric threshold values using a rigid transparent plastic overlay scale with lines precisely etched in 1-dB increments. The decibel value (estimated to the nearest 0.5 dB) was recorded for six adjacent low and six adjacent high reversal points at each test frequency. The arithmetic average of these 12 values constituted the threshold. The postchewing thresholds (T_{po}) for each test frequency (obtained from a given test session) were subtracted from the prechewing thresholds (T_{pr}) from that session. The resulting difference values (T_d) then were multiplied by -1 to achieve a proper direction-of-change relationship between each pair of thresholds, and these values became the data units used in subsequent analysis ($T_d = -1[T_{pr} - T_{po}]$).

For convenience hereafter, stability will be used to differentiate among the protectors as a function of the magnitude of the occluded-ear T_d values. Protectors that achieve the largest negative T_d values will be considered the least stable. Protectors at the other end of the continuum will be viewed as the most stable.

Results

The average difference between the prechewing and postchewing, open-ear reference thresholds at 1.0 kHz over the 115 test sessions was 0.66 dB. A t-test analysis of the prechewing and postchewing threshold means indicated that they were significantly different ($P = .01$), suggesting that there was a consistent tendency for the postchewing thresholds to be slightly worse than the prechewing thresholds. Since the magnitude of the tendency was less than 1 dB, and since the generally accepted margin for error in sound level measures is 1 dB or greater, its practical significance is minimal. It is assumed, therefore, that postchewing test conditions were the same as prechewing conditions, except for the chewing-dependent changes in protector attenuation.

The 575 T_d units were evaluated using a two-factor analysis of variance (ANOVA) based on general linear modeling (SAS), with the main effects being (1) the five test frequencies and (2) the five protector types. Differences caused by the main effect of test frequency were not significant (F-ratio [F] of 0.85 and a chance probability [P] of 0.49). Differences caused by the main effect of protector type were very significant ($F = 44.87$ and $P = 0.0001$). Differences caused by the interaction of test frequency with protector type were not significant ($F = 0.41$ and $P = 0.99$). The differences among the five protectors are illustrated in Figure 1.

The results of a Scheffe test to identify differences between pairs of protectors are summarized in Table 1. These data, and those presented in Figure 1, indicate that the self-expanding viscose foam devices were the most stable (average $T_d = -0.3$ dB). The remaining two protectors produced a mean T_d of -6.1 dB. The differences between the mean T_d for the E.A.R. protectors and those for the 3M-6300, Com-fit, and Bilsom Soft protectors were significant, indicating that the E.A.R. devices were more stable than all of the others

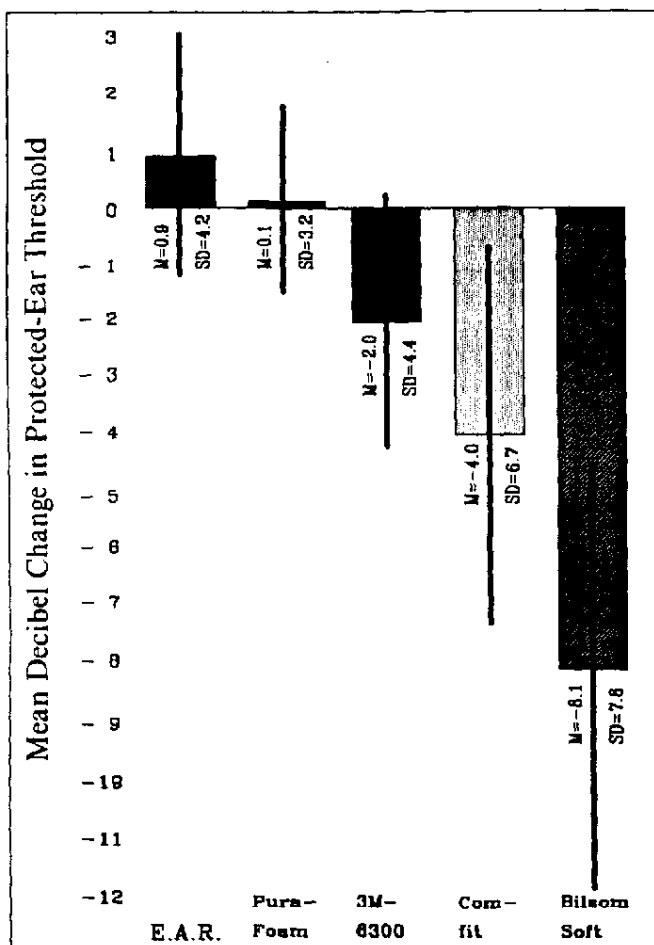


Figure 1—Average change in protected-ear thresholds following 30 min of chewing, re: similar thresholds measured prior to chewing (0.25, 0.5, 1.0, 2.0, and 4.0 kHz).

except Pura-Foam. The differences between the mean T_d for the Bilsom Soft protectors and those for the Com-fit, 3M-6300, Pura-Foam, and E.A.R. protectors were significant, indicating that the Bilsom Soft devices were less stable than all of the others. Able and Rokas⁽¹²⁾ obtained similar results in this respect. During subject testing, a Bilsom Soft protector fell out of the ear canal on three occasions.

Discussion

The two questions for which this study sought answers were (1) to what degree does repeated jaw movement contribute to change in attenuation provided by selected insert-type hearing protectors and (2) are there differences among these protectors in this regard? Repeated jaw movement did result in a significant overall mean T_d for the five protectors tested, and there were significant differences among the five in terms of the magnitude and direction of change that occurred.

Three factors may have contributed to the above differences: (1) resistance between the plug and the ear canal wall,

(2) force resulting from opposition to compression of the plug, and (3) force resulting from canal wall movement. Considering the first, resistance between the plug and the canal wall would be influenced by (a) force that is exerted perpendicular to the canal wall, (b) area of contact between the plug and the canal wall, (c) texture of the plug exterior, (d) surface texture of the canal wall, and (e) the presence of any lubricating substance such as cerumen or moisture. Where resistance to movement of the plug within the ear canal is large, positional stability should be enhanced.

Total opposition to compression of the plug within the ear canal may result from the complex sum of force effects delivered along two planes, perpendicular and parallel. Force exerted perpendicular to the canal wall should increase resistance to drift and contribute to positional stability. Force exerted parallel to the wall should decrease resistance to drift and result in reduced positional stability. Plug taper and flanges (if flanges are present) should contribute to the parallel force vector and, hence, should decrease positional stability. Absence of flanges, along with a cylindrical shape, should minimize the parallel force vector and increase positional stability.

Force vectors generated by the movement of the ear canal wall may vary depending on the design of the protector. A tapered plug, or one with flanges, should translate more of this force into the parallel component than would a cylindrical plug. The result would be a natural decrease in positional stability.

Based on the above reasoning, flangeless plugs of cylindrical shape, capable of generating substantial expansion force, with a coarse surface texture, and a large area of contact with the canal wall should be very stable. Physical examination of the five types of plugs used herein reveals that the E.A.R. and Pura-Foam plugs conform well to all five requirements and were the most stable.

The 3M-6300 plugs differ from the E.A.R. and Pura-Foam plugs primarily in that they are conical in shape (rather than cylindrical) and have a smoother surface texture. It is reasonable to assume that their relative loss of stability resulted from both factors.

The Com-fit plugs have multiple flanges, are basically conical in shape, have a relatively smooth surface texture and may (because of the flanges) have achieved less contact area with the ear canal than did the three viscose foam plugs. When dry, their surface texture is slightly tacky to the touch, but when lubricated in any way, this effect is reduced. The expansion force generated by compressing the Com-fit plugs within the ear canal (compared to that generated by the viscose foam plugs) appeared to be less, but this was only crudely measured. The combination of flanged design, conical shape, smooth surface texture, and, possibly, less expansion force likely contributed to their instability compared to the three viscose foam plugs.

The Bilsom Soft plugs were the least stable of the five. Three features may have contributed to this result. First, they have a very smooth surface texture. Second, the expan-

sion force generated when they are compressed within the ear canal appeared to be less than that generated by the foam plugs and possibly less than that generated by the multiple-flange devices. Finally, they appear to have a slight taper.

Placed in perspective, the data reported and observations made herein do not indicate that one protector is "better" than another. Other factors also must be taken into account, such as NRR value, cost, durability, comfort, convenience, preference, and hygiene. The data do indicate that those who use the less stable protectors will need to readjust the fit on a more frequent basis in order to maintain optimum attenuation. If users are not adequately informed of this need, they may obtain less overall benefit. Because there are differences in stability among the five, the education and training sessions associated with each may require differing content.

For the E.A.R. and -Pura-Foam protectors, the need for readjusting the fit once the devices are properly inserted within the ear canals appears to be minimal. For the 3M-6300 protectors, it may be necessary to remove them periodically, roll them again into a tight cylinder, and reinsert them. It is questionable that they can be refitted by attempting to push them deeper into the ear canal without first removing and rerolling them. For the other two, the need for refitting likely will be frequent, and this probably can be done by pushing them back deeper into the canal.

TABLE I
Paired-Comparison Differences in
Attenuation Stability among Five
Insert-Type Protectors Following
30 Minutes of Controlled
Jaw Movement

Protector	Compared to	Mean Difference In Decibels
E.A.R.	Pura-Foam	0.8
	3M-6300	3.0 ^A
	Com-fit	4.9 ^A
	Bilsom Soft	9.0 ^A
Pura-Foam	E.A.R.	-0.8
	3M-6300	2.2
	Com-fit	4.1 ^A
	Bilsom Soft	8.2 ^A
3M-6300	E.A.R.	-3.0 ^A
	Pura-Foam	-2.2 ^A
	Com-fit	1.9
	Bilsom Soft	6.0 ^A
Com-fit	E.A.R.	-4.9 ^A
	Pura-Foam	-4.1 ^A
	3M-6300	-1.9
	Bilsom Soft	4.1 ^A
Bilsom Soft	E.A.R.	-9.0 ^A
	Pura-Foam	-8.2 ^A
	3M-6300	-6.0 ^A
	Com-fit	-4.1 ^A

^AChance probability is not greater than 0.05

Before a user will refit a hearing protector, he or she must first recognize that the attenuation has decreased to the point that such action is needed. If change in performance is abrupt, it seems reasonable to assume the user will detect it readily. On the other hand, if the change is gradual, it is equally probable that the user might not detect it until the reduction in attenuation results in a potentially dangerous noise level at the tympanic membrane.

With respect to the above, there are two questions that need to be answered. First, when the attenuation provided by an insert-type hearing protector changes as a result of head and jaw movement, does it typically change in abrupt steps or does it change gradually over time? Second, how much change in attenuation must occur for the typical user to detect it while engaged in normal work activities? The type of instruction and training needed to achieve proper use of insert-type devices may be dependent upon the answers to both questions. Therefore, these questions should be pursued via subsequent research, perhaps using *in situ* measures to continuously track changes in attenuation.

Conclusions

(1) The attenuation provided by self-expanding, viscose foam protectors appears to be less affected by jaw movements than is the case for multiple-flanged or glass-fiber devices. At the same time, there are significant differences among self-expanding viscose foam protectors in this regard. The E.A.R. protectors were not significantly more stable than the Pura-Foam devices, but they were more stable than the 3M-6300 units.

(2) Users need to be instructed and trained in the need for, and the proper means to achieve, refitting of insert-type hearing protectors, depending upon the type of protectors being used.

(3) The typical manner in which insert-type hearing protectors change attenuation as a result of head and jaw movements needs to be identified.

(4) The minimum detectable change in attenuation provided by insert-type hearing protectors used on the job needs to be identified.

A final point may be in order. Industry may wish to restrict activities that generate significant jaw movement, such as gum and tobacco chewing, when insert-type hearing protectors are required to be worn.

VVV 000010380

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1 October 1987; Revised 30 August 1988

International Labour Office Book on Major Hazard Control

The International Labour Office, within its safety and health program, has published guidance on how to set up systems for the control of major hazards.

Fires, explosions, and the release of toxic gases can cause deaths and injuries to workers and the public and adversely affect the environment. Disasters such as those at Basel, Bhopal, Fixborough, Mexico City, and Seveso have given rise to the term *major hazards*. The prevention and control of such hazards have become a subject of public discussion in all parts of the world. This comprehensive, practical manual is a response to that pressing issue.

With the increasing production, storage, and use of dangerous substances, there is a need for a well-designed and systematic approach if disasters are to be avoided. The manual deals with the safety aspects of siting, design, construction, and operation of plants, explains how to identify major hazard installations, and describes all the components of a major hazard control system. Extensive information is provided on planning for emergencies both on site and in the community.

This book is aimed at all countries considering major hazard control for the first time and at those where certain aspects of a system already are in operation. Factory inspectorates and managers of major hazard installations and trade unions, and local authorities and emergency services will find it indispensable.

The ILO manual on major hazard control can be ordered at the cost of 45SFR from ILO Publications, International Labour Office, CH1211 Geneva 21, Switzerland.



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