Chemicals-in-Progress Bulletin

Office of Toxic Substances (OTS)
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EPA Acts to Further Reduce Public's Exposure to Dioxin

On April 30, EPA announced that it will develop regulations to reduce dioxin contamination in water and soil resulting from the manufacture of chlorine-bleached pulp and paper. The agency will also work closely with the Food and Drug Administration (FDA) to ensure that the already low risks posed by dioxin in food packaging are further reduced.

"Even though dioxin levels in paper products are small enough to be no cause for alarm, our intention is to reduce those levels even more," said EPA Deputy Administrator Hank Habicht. "We do, however, believe the risk to consumers of certain fish from waters downstream from some of these mills to be more significant. EPA is taking actions that will greatly lower dioxin discharges into those waters. EPA will also intensify its cooperation with states to identify hotspots and to encourage that fishing advisories and bans are in place where necessary," Habicht said.

EPA's announced actions are based on an assessment of dioxin risk associated with the production of chlorine-bleached wood pulp; the risk assessment was based on a study of all 104 pulp and paper mills in the United States that use chlorine bleaching. The risk assessment was a joint effort of EPA, FDA, and the Consumer Product Safety Commission.

Dioxin is a generic term for a group of 75 related compounds known as polychlorinated dibenzo-p-dioxins. In the production of bleached pulp and paper, wood pulp is treated with chlorine; dioxin compounds are an unwanted byproduct of this process. Dioxin is a highly toxic chemical and is classified by EPA as a probable human carcinogen. It persists in the environment and can accumulate in the tissue of fish, other wildlife, and humans.

The agency's action on dioxin is consistent with the requirements of a 1988 consent decree between EPA and the Environmental Defense Fund and National Wildlife Federation. The consent decree set a schedule for EPA to make decisions on the need for regulation to control health and environmental risks associated with dioxin-contaminated water effluent, sludge, and paper products.

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HIGHLIGHTS

OTS Sets New Objectives for

Goal is Better Implementation of TSCA

By Charles L. Elkins

EPA's Office of Toxic Substances (OTS) is redirecting its efforts in the Existing Chemicals Program to more effectively use the Toxic Substances Control Act (TSCA). These changes in practices and procedures will allow OTS to implement TSCA as Congress intended and to produce more environmental results.

Our objective is to do a better job of making decisions about the thousands of chemicals now on the market that may affect our lives. Decisions on which chemicals require regulatory and nonregulatory actions will be based on OTS experts' growing understanding of the risks to health and the environment from some of these chemicals and the need to reduce these risks.

How Will OTS Change Its Approach to Existing Chemicals?

Two basic themes capture the spirit of our revitalization efforts:

First — We will direct more of our energy and resources toward achieving risk reduction in the real world. This **bias for action** will be reflected in OTS's making more decisions about whether a chemical requires regulation.

Second — We are **taking the** OTS **program public.** We are committed to making more of our information publicly available. We want people to know what our analysis shows about the hazards of chemicals we screen, and we will inform the public both when there is a need for testing and risk reduction and when there is not. We also want to invite the public to help us identify hazards, set priorities, and reduce risk.

The following outline of program changes is an initial framework for change. It may be modified as other individuals and groups become increasingly involved.

What Do the Changes Consist of?

1. **Use the authorities of TSCA as Congress intended, with a stronger bias for action to achieve the statute's intent to protect health and the environment.**

Inside and outside OTS, people have expressed concern about the way OTS traditionally conducts its business. Under TSCA, OTS is responsible for determining whether chemicals, taking into consideration their economic benefits, pose an unreasonable risk, and for taking appropriate action. With over 50,000 existing commercial chemicals being manufactured in the United States, the job under TSCA is a daunting one. Based on our experience with the New Chemicals Program over the past several years, however, we believe we have now developed some new approaches to addressing this universe of existing chemicals that will allow us to achieve results more in keeping with the ambitious objectives set by the Congress at the time TSCA was enacted.

2. **Streamline our program to allow OTS to make more decisions about which chemicals require regulation, using more innovative regulatory approaches and, when appropriate, supplementing these activities with creative programmatic actions to reduce risks from existing chemicals.**

To be more effective in reducing risks from existing chemicals, OTS has decided it is necessary to change its approach to three activities: risk management, chemical screening, and chemical testing.

Risk Management. Risk reduction is the ultimate goal of the whole existing chemical process. To achieve greater risk reduction, risk management opportunities will be seriously considered at all stages of the risk assessment process. This will allow earlier risk management actions to be taken when they are appropriate. In addition, traditional regulatory approaches will be supplemented with greater use of "lower threshold" regulatory actions and more creative programmatic approaches.

Existing Chemicals Program

The process will use a graduated response to risk reduction. This graduated approach will make use of such concepts as "product stewardship," a process by which a manufacturer assesses the safety, health, and environmental information on its products throughout their life cycle and then takes appropriate steps to protect employee and public health and the environment. The graduated response process will also use, when appropriate, the menu of technical assistance and other activities that have proved successful in the OTS asbestos-in-schools program. These activities include sponsoring public dialogues on key issues and producing citizen and consumer guides, training materials, and technical control guidance. Decisions on all these program activities will be made at the earliest possible review stage as appropriate, while allowing more stringent and comprehensive actions once additional requisite analysis has been performed.

Chemical Screening. Screening of chemicals in commerce to identify potential risks will be linked more directly to the risk management portion of the program to support making decisions on risk reduction. To make the most effective use of our resources, OTS will screen chemical clusters, or like groups of chemicals, together. Screening activities will also incorporate growing international efforts, where OTS already is a key player. Several chemical clusters were selected for screening in May, and by autumn, OTS will begin publishing the results of these initial screening efforts. Through this process, OTS will identify additional chemicals that deserve further action, as well as chemicals (expected to constitute the majority) that appear to present little or no risk. (See related article on page 13.)

Chemical Testing. In the future, an acceleration of the testing of chemicals is essential to an understanding of potential risks. The development of single chemical test rules, however, is too resource-intensive for OTS to continue to use as the principal means of obtaining testing from industry. Wherever possible, OTS will use model, or generic, rules to maximize productivity. By this fall, OTS will propose its first generic test rule. Further, OTS will communicate more clearly to the public on our proposed chemical testing priorities. For example, we will establish first- and second-priority chemicals. On first-priority chemicals, OTS will expect companies to submit test data or make a commitment to conduct the testing in the near future, with the alternative being that OTS will issue a test rule. Second-priority chemicals will be next in line to become top priorities. Second priorities provide industry with advance notice of testing needs, which it may decide to fill voluntarily. In addition, international programs of voluntary testing on high-production-volume chemicals will continue to be an important element in the OTS testing program.

3. Incorporate the principle of right-to-know in our implementation of TSCA.

The experience of working with the right-to-know program under the Emergency Planning and Community Right-To-Know Act has convinced OTS that increasing the public's access to environmental data is valuable. OTS is examining TSCA in light of right-to-know principles and is finding that the protection of confidential business information and the provision of beneficial information to the public are compatible in many instances and should be pursued.

With right-to-know principles in mind, OTS will increase public access to its data by taking several initial steps. First, OTS will make publicly available the results of all its risk assessments. Second, OTS is making available to the public its testing priorities. (See related article on page 6.) Third, OTS will make publicly available its screening results, including chemicals that appear to pose a risk as well as those that appear to pose little or no risk.

4. More actively involve others in setting and accomplishing the national agenda for toxic chemicals and in designing the specifics of the new OTS program.

OTS is seeking to better integrate its efforts with those of others in the "toxic substances community." By "others," OTS means environmental groups, labor, industry, academia, other federal agencies, state and local governments, the international community, and the public at large. Beginning with the changes being introduced here, OTS is inviting these various constituencies to help shape the specifics of its new program. OTS will also be exploring ways to "work smarter" with others by taking such steps as dividing tasks on the international toxic substances agenda with other countries, increasing public access to its own data, and using the results others produce to expedite progress on the federal level.

Fisher Outlines Asbestos Policies

In-place management recommended by EPA

Linda J. Fisher, Assistant Administrator for EPA's Office of Pesticides and Toxic Substances, recently testified on EPA policies to control asbestos in schools and public and commercial buildings before the Senate Subcommittee on Toxic Substances. In her testimony, Ms. Fisher outlined the following five facts about asbestos:

FACT ONE:

Although asbestos is hazardous, human risk of asbestos disease depends upon exposure.

Asbestos is known to cause cancer and other diseases if fibers are inhaled into the lung and remain there. This conclusion is based on studies involving human exposure, particularly exposure at high levels.

As an article in *Science* recently indicated, exposure to chrysotile, or common white, asbestos may be less likely to cause some asbestos-related diseases than are other types of asbestos. The National Academy of Sciences and various other scientific organizations, however, support EPA's more prudent approach of regulating all types of asbestos.

Regarding the so-called "one fiber can kill" reports on asbestos in the popular media, current scientific evidence will not allow us to state unequivocally that there is no risk below a certain level of exposure. This does not mean that all or any exposure is inherently dangerous, but, in fact, the risk could be negligible or even zero.

The mere presence of asbestos on an auditorium ceiling, for example, no more implies disease than a potential poison in a medicine cabinet or under a kitchen sink implies poisoning. Asbestos fibers must be released from the material in which they are contained, and an individual must breathe those fibers to incur any chance of disease. Almost every day, we are exposed to some prevailing level of asbestos fibers in buildings or experience some ambient level in the outdoor air. And, based on available data, very few among us, given existing controls, have contracted or will ever contract an asbestos-related disease at these low prevailing levels.

FACT TWO:

Prevailing asbestos levels in buildings seem to be very low. Accordingly, the health risk to building occupants also appears to be very low.

A 1987 EPA study found that air levels of asbestos in a segment of federal buildings with management programs were so low that they were virtually indistinguishable from levels outside these buildings. While these data are not conclusive and we are seeking more information through a major research effort, the present evidence suggests that building occupants face only a very slight risk. Severe health problems attributed to asbestos exposure have generally been experienced by workers in industries such as shipbuilding. In these industries, workers were constantly exposed to very high fiber levels in the air, often without any of the worker protection now afforded them under the law.

FACT THREE:

Removal is often not a building owner's best course of action to reduce asbestos exposure.

Although logic suggests that wholesale asbestos removal from a building would best eliminate any potential hazard, this is not always true as a practical matter. Asbestos removal practices by their very design disturb the material and significantly elevate air levels of asbestos fibers, which must be carefully contained during the removal project. Unless all safeguards are properly applied and strictly adhered to, exposure in the building can rise, perhaps to levels where we know disease can occur. Consequently, an ill-conceived or poorly conducted removal project can actually increase rather than eliminate risk.

FACT FOUR:

EPA requires asbestos removal only in order to prevent significant public exposure to asbestos during building renovation or demolition.

Prior to a major renovation or demolition, asbestos material likely to be disturbed or damaged to the extent that significant amounts of asbestos would be released must be removed using approved practices under EPA's asbestos National Emissions

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Senate Subcommittee Hears Fisher

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Standards for Hazardous Air Pollutants (NESHAP). Demolishing a building filled with asbestos, for example, would likely result in significantly increased exposure and could create an imminent hazard. Clearly, asbestos removal before the wrecking ball swings into action is appropriate to protect public health.

Arbitrary asbestos removal projects, however, as noted above, can actually increase health risk unless properly performed. In part for this reason, EPA has not mandated asbestos removal from buildings beyond the NESHAP requirement, which has the effect of gradually and rationally taking all remaining asbestos building materials out of the inventory.

FACT FIVE:

EPA does recommend in-place management whenever asbestos is discovered.

A proactive in-place management program will usually control fiber release, particularly when the materials are not significantly damaged and not likely to be disturbed. Effective in-place management involves training, awareness, special control procedures, and periodic surveillance. Taken together, these measures effectively minimize asbestos risks in most situations, without the cost and disruption of a removal. An in-place management program does not have to be extraordinarily expensive. Management costs will depend on the amount, condition, and location of the material.

In-place management, of course, does not mean "do nothing." A building owner who finds asbestos in his facility and ignores it has no way to ensure that maintenance and service workers, in the course of their daily activities, will not disturb materials that can elevate asbestos fiber levels. The reduction of unnecessary exposure for these workers, whose work may put them at significantly higher risk, is a primary concern of EPA and other federal, state, and local agencies that regulate asbestos.

EPA Seeks to Reduce Risks from Dioxin

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Water Effluent

To reduce levels of dioxin discharged from pulp and paper mills into rivers and streams, EPA will aggressively apply the National Pollutant Discharge Elimination System (NPDES) and will develop technology-based effluent standards to reduce the levels of dioxin and total chlorinated organics produced during the manufacture of bleached paper products.

Industrial Sludge

EPA will propose regulations under the Toxic Substances Control Act to address the practice of using dioxin-contaminated sludge from pulp and paper mills as a soil conditioner. Approximately 12 percent of industrial sludge from pulp and paper mills is used for this purpose.

The agency will also determine whether to use the Resource Conservation and Recovery Act to establish guidelines for best management practices for landfills and sludge lagoons that contain sludge from pulp and paper mills.

Food Contact Papers

EPA will ask the FDA to formally take lead responsibility for managing risks from dioxin in food contact papers. The FDA has for some time been working actively and cooperatively with EPA on this issue. Although both EPA and FDA have concluded that the risk to consumers from dioxin in food contact papers is small, both agree that this risk can and should be further reduced.

Other Actions

In addition to actions taken under the consent decree, EPA has proposed a pollution-prevention initiative—to involve industry, environmental and other interest groups, other federal agencies, states, and the international regulatory community—whose purpose is to accelerate reductions in dioxin pollution through manufacturing process modifications, including use of chlorine substitutes. The initiative will include ongoing discussions among interested parties regarding further efforts to reduce or prevent dioxin pollution; information exchange with Canada, the Federal Republic of Germany, Sweden, and other nations; technology transfer; and public information efforts.

OTS Lists Chemicals Under

The two lists that are published on pages 7 to 12 show all the chemicals that are under consideration for testing or are currently subject to risk management/risk assessment activities by the Office of Toxic Substances (OTS). During periodic reviews, OTS will remove chemicals from these lists if there is no reason for concern or if appropriate risk management actions have been taken.

If you have any questions about the Existing Chemicals Program lists discussed in this section, please call the TSCA Assistance Information Service at (202) 554-1404.

Current Master Testing List

OTS has compiled a master list of the chemicals it is considering for testing by industry. This Master Testing List reflects the chemicals for which the collection of certain health and safety test data is a priority to OTS.

OTS identified the need for data from its own initiatives, referrals from the Interagency Testing Committee (ITC) and other EPA offices or federal agencies, and through OTS participation in international activities. The list is current as of May 1990 and will be updated periodically.

It should not be assumed that OTS will initiate a rulemaking to collect or generate data on each of these chemicals. In some instances, existing test data that OTS is unaware of may meet specific data needs. In other cases, needed test data are being generated voluntarily by domestic or international industry, or the data may be generated by and through the federal government.

In many cases, however, EPA will pursue the needed information using statutory authorities under TSCA. In particular, TSCA authority may be used when the ITC refers or designates a chemical to EPA to consider for priority testing. Under TSCA, EPA can require that available data be submitted and, where appropriate, require the development of test data.

EPA will supplement its rulemaking authority through negotiation of enforceable testing consent orders where appropriate.

How to Read the List

The Master Testing List is presented in tabular format. This version of the list has been generated in Chemical Abstracts Service (CAS) number order. An explanation of each column heading and the possible entries follows.

CAS Number

The CAS number is the unique numeric identifier assigned to chemicals by the Chemical Abstracts Service. Hyphens have been omitted.

In addition to specific individual chemicals, there are two categories of chemicals on the Master Testing List: (1) glycidol and its derivatives and (2) ethylene glycol ethers. The categories, as such, do not have CAS numbers. There are also two entries under the CAS number column heading for endpoint-specific neurotoxicity. These entries represent OTS initiatives to obtain testing on groups of chemicals where either developmental toxicity or neurotoxicity testing is indicated.

Chemical Name

The Master Testing List lists the chemical or common name provided by the organization that first identified to OTS the need for testing. These names have not been standardized to the most recent CAS or International Union of Pure and Applied Chemistry (IUPAC) format.

Source

The chemicals listed on the Master Testing List have been identified for testing through several different sources. To date, these sources have consisted of U.S. government organizations and the international toxics community.

OECD. The Organization for Economic Cooperation and Development member countries have agreed that there should be a base set of screening-level test data available on certain high-production chemicals. In November 1989, OECD member countries developed a list of 147 high-priority chemicals for which these data, known as the Screening Information Data Set (SIDS), should be produced. In April 1990, the OECD agreed to undertake a pilot study of 53 of these chemicals.

Consideration for Testing

Those 53 chemicals are included on the Master Testing List. This pilot is regarded as a cooperative voluntary program, with representatives from the chemical industry and member countries' governments participating.

ITC. The Interagency Testing Committee is another major source of chemicals on the Master Testing List. Several of the chemicals listed here are backlogged cases where, generally because of complexities in the case, OTS does not yet have a final consent order or test rule. Others are new ITC recommendations or designations. The ITC Report that recommended or designated the chemical is indicated by number.

OTS. Chemicals listed are priorities for testing that OTS has identified during the screening or risk assessment process. In addition, OTS is developing endpoint-specific test requirements that will encompass a number of specific chemicals that are not yet identified. The testing efforts now being pursued under this aspect of the program include a developmental toxicity endpoint rule and a solvent neurotoxicity endpoint rule.

Other EPA Offices. OTS is working with three other EPA offices to generate needed test data. These offices are OAR (Office of Air and Radiation), ODW (Office of Drinking Water), and ORD (Office of Research and Development). OTS currently has a testing program under way that includes 33 chemicals for which the EPA Office of Solid Waste has identified needed test data, and testing for each of the chemicals is complete or nearing completion.

Other Agencies. OTS is working with two other federal agencies to generate needed test data: ATSDR (Agency for Toxic Substances and Disease Registry) and CPSC (Consumer Product Safety Commission).

SIDS. For each of the chemicals currently being handled through OECD's voluntary SIDS testing program, a two-letter code is provided to identify the country that is conducting tests.

- AT Austria
- BE Belgium
- CA Canada
- DK Denmark
- FI Finland
- FR France
- DE Germany
- IT Italy
- JP Japan
- NL Netherlands
- SE Sweden
- CH Switzerland
- UK United Kingdom
- US United States

HLTH, ENV, FATE, and EXP

The columns flagged with an "X" indicate the general area(s) of testing that OTS believes is necessary for the listed chemical. The definition of each abbreviated column head follows:

- HLTH Health effects
- ENV Environmental effects
- FATE Chemical fate
- EXP Exposure testing

Master Testing List

May 1990

CAS Number	Chemical Name	Source	SIDS	HLTH	ENV	FATE	EXP
Category	Ethylene glycol ethers	OTS, OSHA, CPSC, NIOSH		X		X	
Category	Glycidol and derivatives	ITC 3		X			
Endpoint-Specific Testing Requirement: Developmental Toxicity		OTS		X			
Endpoint-Specific Testing Requirement: Solvent Neurotoxicity		OTS		X			

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Master Testing List, Continued

CAS Number	Chemical Name	Source	SIDS	HLTH	ENV	FATE	EXP
56235	Carbon tetrachloride	ATSDR		X			
59676	3-Pyridinecarboxylic acid	OECD	CH				
70553	Benzenesulfonamide, 4-methyl-	OECD	JP				
74873	Chloromethane	ODW		X			
75003	Chloroethane	ATSDR, ODW		X			
75343	1,1-Dichloroethane	ODW		X			
75354	1,1-Dichloroethene	OAR		X			
75547	Silane, dicholoromethyl-	OECD	FR				
75694	Fluorotrichloromethane	ODW		X			
75774	Silane, chlorotrimethyl-	OECD	US				
75785	Silane, dichlorodimethyl-	OECD	FR				
75796	Silane, trichloromethyl-	OECD	FR				
75912	Hydroperoxide, 1,1-dimethylethyl-	OECD	NL				
77996	1,3-Propanedio, 2-ethyl-2-(hydroxymethyl)-	OECD	JP				
78591	Isophorone	ATSDR		X		X	
78842	Propanal, 2-methyl-	OECD	US				
79005	1,1,2-Trichloroethane	ODW		X			
79345	1,1,2,2-Tetrachloroethane	ODW		X			
88722	Benzene, 1-methyl-2-nitro-	OECD	SE				
99092	Benzenamine, 3-nitro-	OECD	JP				
100403	4-Vinylcyclohexene	ITC 25		X		X	X
101724	1,4-Benzenediamine, N-(1-methylethyl)-N'-N'-phenyl-	OECD	UK				
103651	n-Propylbenzene	ODW		X			
105760	Maleic acid, dibutyl ester	OECD	AT				
107017	2-Butene	OECD	NL				
108678	1,3,4-Trimethylbenzene	ODW		X			
108894	Pyridine, 4-methyl-	OECD	BE				
108952	Phenol	ATSDR		X			
108996	Pyridine, 3-methyl-	OECD	BE				
109068	Pyridine, 2-methyl-	OECD	BE				
109660	Pentane	OECD	CA				
110827	Cyclohexane	ITC 18		X			
112538	1-Dodecanol	OECD	DK				
112925	1-Octadecanol	OECD	DK				

Master Testing List, Continued

CAS Number	Chemical Name	Source	SIDS	HLTH	ENV	FATE	EXP
115866	Phosphate, triphenyl	ITC 2		X			
115968	Phosphate, tris(2-chloroethyl)	ITC 23			X	X	
116154	1-Propene, 1,1,2,3,3,3-hexafluoro-	OECD	IT				
121573	Benzenesulfonic acid, 4-amino-	OECD	DE				
122521	Phosphorous acid, triethyl ester	OECD	DE				
123386	Propanal	OECD	US				
123728	Butyraldehyde	ITC 23		X	X	X	
126307	1,3-Propanediol, 2,2-dimethyl-	OECD	JP				
126589	1,3-Propanediol, 2,2'-[oxybis(methylene)] bis[2-(hydroxymethyl)-	OECD	SE				
128392	Phenol, 2,6-bis(1,1-dimethylethyl)-	OECD	CH				
141797	Mesityl oxide	ITC 4		X			
141979	Butanoic acid, 3-oxo-, ethyl ester	OECD	UK				
143226	Ethanol, 2-[2-(2-butoxyethoxy)ethoxy]-	OECD	NL				
147148	C.I. Pigment Blue 15	OECD	JP				
156434	Benzenamine, 4-ethoxy-	OECD	JP				
294622	Cyclododecane	OECD	FR				
504609	1,3-Pentadiene	OECD	US				
536903	Benzenamine, 3-methoxy-	OECD	JP				
556672	Cyclotetrasiloxane, octamethyl-	OECD	US				
584032	1,2-Butanediol	OECD	JP				
590863	Butanal, 3-methyl-	OECD	DE				
682097	1-Butanol, 2,2-bis[(2-propenyloxy) methyl]-	OECD	DE				
693232	Dodecanedioic acid	OECD	US				
823405	2,6-Toluenediamine	ITC 6		X	X	X	
836306	Benzenamine, 4-nitro-N-phenyl-	OECD	BE				
872059	1-Decene	OECD	FI				
872504	N-Methylpyrrolidone	CPSC		X			
1000824	Methylolurea	ITC 12		X			
1163195	Decabromodiphenyl ether	ITC 25		X	X	X	X
1241947	Phosphate, 2-ethylhexyl diphenyl	ITC 2		X			
1330785	Phosphate, tricresyl	ITC 2		X			
1758732	Methanesulfinic acid, aminoimino-	OECD	AT				
2402791	Pyridine, 2,3,5,6-tetrachloro-	OECD	US				
2431507	1-Butene, 2,3,4-trichloro-	OECD	DE				

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Master Testing List, Continued

CAS Number	Chemical Name	Source	SIDS	HLTH	ENV	FATE	EXP
2528361	Phosphate, di(n-butyl)phenyl	ITC 2		X			
2720732	Carbodithioic acid, O-pentyl ester, potassium salt	OECD	CA				
3194556	Hexabromocyclododecane	ITC 25		X	X	X	X
3209221	Benzene, 1,2-dichloro-3-nitro-	OECD	JP				
6145739	Phosphate, tris(chloropropyl)	ITC 23		X	X	X	
6386385	Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, methyl ester	OECD	CH				
6419198	Phosphonic acid [nitrilotris (methylene)]tris-	OECD	UK				
9011056	Urea-formaldehyde resins	ITC 12		X			
13674845	Phosphate, tris(1-chloro-1-propyl)	ITC 23		X	X	X	
13674878	Phosphate, tris(1,3-dichloro-2-propyl)	ITC 23		X	X	X	
16529569	3-Butenenitrile, 2-methyl-	OECD	FR				
25155231	Phosphate, trixylyl	ITC 2		X			
25265774	Propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentatediol	OECD	US				
28108998	Phosphate, isopropylphenyl diphenyl	ITC 2		X			
29171208	6-Octen-1-yn-3-ol, 3,7-dimethyl-	OECD	CH				
29590429	2-Propenoic acid, isooctyl ester	OECD	US				
29761215	Phosphate, isodecyl diphenyl	ITC 2		X			
32534819	Pentabromodiphenyl ether	ITC 25		X	X	X	X
32536520	Octabromodiphenyl ether	ITC 25		X	X	X	X
33125869	Phosphate, tetrakis(2-chloroethyl) ethylene, di-	ITC 23			X	X	
37853591	Ethane, 1,2-bis(2,4,6-tribromophenoxy)	ITC 25		X	X	X	X
37971361	1,2,4-Butanetricarboxylic acid, 2-phosphono-	OECD	DE				
51363645	Phosphate, diisodecyl phenyl	ITC 2		X			
56803373	Phosphate, tert-butylphenyl diphenyl	ITC 2		X			
65652417	Phosphate, bis(tert-butylphenyl) phenyl	ITC 2		X			
68122861	Quaternary ammonium compounds, imidazolium	ITC 25		X	X	X	
68410695	Quaternary ammonium compounds, ethoxylated	ITC 25		X	X	X	
68413047	Quaternary ammonium compounds, ethoxylated	ITC 25		X	X	X	
68515424	Phthalate, di(heptyl,nonyl,undecyl)	ITC 1			X		
68611643	Urea-formaldehyde resins	ITC 12		X			
72623826	Quaternary ammonium compounds, imidazolium	ITC 25		X	X	X	
97380663	Urea-formaldehyde resins	ITC 12		X			

Chemicals Currently Under Review Within OTS

OTS carries out risk assessment and risk management activities under the Toxic Substances Control Act (TSCA). The office is revising the way in which these activities are organized and carried out internally. (See related article on page 2.)

The chemicals listed below are already under active review within OTS. These chemicals will continue to be processed, but in accordance with the new procedures being adopted to maximize productivity.

Current Chemical Management Activities

May 1990

Chemical/Activity	Risk Characterization	OTS Activity
Acrylamide, chemical grouting uses.	A probable human carcinogen with demonstrated neurotoxic and reproductive effects; significant exposure can occur during the grouting of sewers and sealing of manholes.	OTS is preparing a notice of proposed rulemaking (NPR) to be issued under TSCA section 6.
Acrylonitrile, emissions from industrial facilities.	A probable human carcinogen that may also pose a risk of developmental effects to populations who reside around these facilities.	OTS is listing the chemical for testing, performing a risk screen, and discussing its risk concerns with outside parties.
Aniline, emissions from industrial facilities.	A probable human carcinogen (Group B2) identified from 1987 Toxic Release Inventory data; emissions were particularly high from one facility; linked to incidents of bladder cancer in occupational settings.	OTS is performing a risk screen and is discussing its risk concerns with outside parties.
Aqueous and terpene cleaners, all commercial/industrial uses.	The careless disposal of these cleaners may pose high environmental risks, especially to aquatic life. Terpenes may also pose risks of neurotoxic, developmental, reproductive, and kidney effects.	OTS is conducting a health and environmental assessment under its chlorinated fluorocarbons (CFC) substitutes review program.
Asbestos, all commercial activities.	A human carcinogen that is the subject of an EPA ban and phase-out rule.	OTS is engaged in abatement, information dissemination, and implementing comprehensive control actions.
Brominated flame retardants, used in plastics.	Present potential risk of cancer and developmental effects in humans; contain brominated dioxins as an impurity and may pose risk to consumers and plastic product users; also may pose risk of adverse environmental effects.	OTS is pursuing a testing program and will be discussing its concerns with outside parties.
Dichloromethane (methylene chloride), used in chemical paint stripping formulations.	A chlorinated solvent that may pose human cancer risks both in the workplace and consumer settings.	OTS is exploring substitutes and alternative risk reduction options.
Dichloromethane (methylene chloride), in consumer aerosols.	A chlorinated solvent that may pose cancer risks for consumers.	OTS is awaiting a market evaluation by the Consumer Product Safety Commission (CPSC) and exploring risk reduction options with CPSC.

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Current Chemical Management Activities, Continued

Chemical/Activity	Risk Characterization	OTS Activity
Dioxin and furans, in bleached paper products.	Probable human carcinogenic (Group B2) impurities, produced in paper bleaching operations, that can contaminate certain paper products, industrial sludge, and paper mill effluent streams.	EPA is pursuing risk reduction in mill effluents and for sludge and will be referring the subject of paper products to the Food and Drug Administration (FDA) under section 9 of TSCA.
Dioxins and furans, brominated and chlorinated, in all contaminated products.	As impurities, present potential risk for cancer and developmental effects in consumers/users of products; also pose risk of adverse environmental effects.	OTS has taken action under TSCA sections 4 and 8 and, under a consent decree, is assessing the need for control action.
Formaldehyde, emissions from urea-formaldehyde (UF) pressed wood products.	A probable human carcinogen (Group B1) that may pose significant cancer risk to occupants of new homes that contain large amounts of UF pressed wood.	OTS is updating its risk assessment and conducting a priority regulatory investigation currently targeted for decision in late 1990.
Hydrazine, environmental releases from industrial facilities.	A probable human carcinogen and aquatic toxin identified from Toxic Release Inventory data.	OTS is considering testing (for developmental toxicity) and discussing its concerns with outside parties.
Lead, all commercial uses.	An environmentally pervasive, bioaccumulating heavy metal capable of producing neurological and developmental abnormalities in humans.	OTS is developing a comprehensive agencywide approach to risk reduction under the EPA Pollution Prevention program.
Nitrites, used in metalworking fluids.	Their formulation as part of, or subsequent addition to, metalworking fluids likely causes the formation of, and occupational exposure to, nitrosamines—human carcinogens.	OTS is issuing a significant new use rule (SNUR) applicable to any resumption of commercial activity.
Perchloroethylene, in consumer aerosols.	A probable human carcinogenic solvent.	OTS is exploring risk reduction options with CPSC.
Perchloroethylene, used in commercial dry cleaning.	A probable human carcinogenic solvent that is off-gased from dry-cleaned fabric and may pose potential risk to consumers.	OTS is exploring testing options.
Polychlorinated biphenyls, all commercial and disposal activities.	A persistent environmental contaminant that poses carcinogenic risk to humans and wildlife.	OTS is implementing control regulations under TSCA section 6.
Ortho-Toluidine, emissions from industrial facilities.	A probable human carcinogen identified from Toxic Release Inventory data; linked to incidents of bladder cancer in occupational settings.	OTS is performing a risk screen and is discussing its risk concerns with outside parties.

New Information on Existing Chemicals Available to Public

New information about existing chemicals will be available from the TSCA Assistance Information Service (TSCA Hotline) as of August 1.

Under its revised approach to existing chemicals, OTS staff meets weekly to determine whether it is appropriate to take early risk management actions on a chemical. OTS schedules chemicals for these Risk Management Level I (RM1) meetings six weeks in advance.

The TSCA Hotline will have available for distribution both the six-week calendars and summaries of RM1 decision. Calendars will include a brief description of why a chemical is being brought to an RM1 meeting. Please note that any comments or information received by OTS regarding these calendars or summaries will be made part of the public record.

The TSCA Hotline, 202-554-1404, operates Monday through Friday from 8:30 a.m. to 5 p.m. Eastern time. FAX requests for documents are received at all times on 202-554-5603.

OTS Expects to Do More Reviews by Screening Chemicals in Clusters

The Office of Toxic Substances (OTS) is embarking on a new program to increase the number of chemicals that it screens for health and environmental risks. This expanded program to screen existing data on chemicals is expected to lead to more information gathering, testing, and risk management actions on existing commercial chemicals. It will also allow OTS to identify chemicals for which there appears to be little or no risk and to make that information public.

A key component of this effort is the review of "clusters" of chemicals. These groups of chemicals are related by defined characteristics such as chemical structure, physical/chemical properties, use/exposure patterns, or toxicologic effects. Screening chemicals in clusters will greatly increase the number of chemicals reviewed in OTS and will allow decisions to be made on entire groups of chemicals. For example, a group of high-exposure chemicals that has very limited toxicologic data could be targeted for further testing.

The clusters that OTS has selected as high-priority projects in the screening program are briefly described below:

Persistent, Bioaccumulative Chemicals

OTS's experience with new chemicals has shown that certain physical/chemical (p-chem) properties can identify classes of chemicals that persist in the environment and tend to bioaccumulate in lipid tissues. Toxic chemicals with these characteristics have been some of the most problematic for the environment (e.g., DDT, PCBs, chlorinated dioxins and furans).

P-chem properties (such as log P, molecular weight, and melting point) will be used to screen lists of chemicals. From this information, referrals can be made for toxicity testing and risk assessment/risk management.

TSCA Inventory Chemicals in Structural Categories of Concern

Chemicals in certain categories are routinely subjected to section 5(e) data development orders and section 5(a) significant new use rules in the TSCA New Chemicals Program. This project focuses on existing chemicals that are subject to the inventory update rule. (See related article on page 16.) It will systematically identify the chemicals that fall within the same structural categories of concern for health or environmental effects.

Major factors employed in screening will be production volume, environmental fate properties, and chemical structure/activity relations as defined in the New Chemicals Program's "categories of concern." The product of the screening effort will be individual chemical dossiers and possible referrals for testing and risk assessment/risk management.

Toxic Release Inventory Chemicals

This project is designed to identify Toxic Release Inventory (TRI) chemicals as candidates for risk assessment and risk management under TSCA. The project has five major components, four of which have been completed:

1. Prescreening (completed): Chemicals not considered to be good candidates for OTS action were deferred from screening. These deferrals include chemicals already under detailed assessment or regulation and chemicals for which no TRI reports were received.

2. Hazard Ranking (completed): Chemicals were assigned a high, medium, or low hazard ranking based on existing agency standards and evaluations (e.g., reportable quantities, reference doses, carcinogen slope factors).

3. Exposure Ranking (completed): Chemicals were assigned a high, medium, or low exposure ranking based on limited analysis of TRI data using simple models.

4. Exposure Evaluation (completed): Rough quantitative estimates of site-specific exposures were derived from TRI data and standard models.

5. Preliminary Risk Assessment: Hazard and exposure information will be integrated to identify health and environmental risks.

1988 TRI Results Announced

• **See chart on next page**

Initial results of the 1988 Toxic Release Inventory (TRI) show that 4.57 billion pounds of toxic chemicals were released into the nation's air, water, and land in 1988.

Overall, TRI releases in 1988 were 8.8 percent lower than in 1987 (see accompanying chart). But EPA cautions that the lower numbers do not necessarily indicate any reduction in pollution. The agency is examining how much of the decline can be attributed to better emission estimates by industry, as well as to other factors.

EPA released the first TRI figures, covering 1987 releases, a year ago. Since then, the public and EPA have both used TRI information to support actions to protect the environment.

"The data pinpoints who's polluting, how much, with what chemicals, and where," EPA Administrator William K. Reilly said. "This knowledge is the first step toward effective pollution control and prevention."

The agency uses TRI information to strengthen the regulation of toxic releases, to develop pollution prevention programs, and to target inspection and compliance activities.

The data are used by state lawmakers, individuals, communities, environmental groups, and businesses as a catalyst to reduce pollution. For example, Louisiana, Massachusetts, and Oregon have passed laws that require 50 percent reductions in TRI emissions in some cases. Citizen groups across the country have used TRI data to address pollution problems at the local level, and many companies are making commitments to reduce their emissions of TRI chemicals.

How to get TRI data

- The national TRI database can be accessed from your personal computer through the National Library of Medicine. For information on obtaining an account or other assistance, call 1-800-272-4787 (301-496-6531 from Washington, D.C., Maryland, or Virginia) or write to TRI Representative, Specialist Representative Services, National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894.

- Magnetic tapes of the entire TRI in ASCII format with tape documentation are available for purchase from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161; 703-487-4763.

  Ordering Information

  Format: ASCII, 1600 bpi
  Price: $1,550 + $3 handling charge
  Order #: BP90-502030
  Format: ASCII, 6250 bpi
  Price: $1,100 + $3 handling charge
  Order #: PB90-502030

- Magnetic tapes will also be available shortly from the U.S. Government Printing Office, 710 North Capitol Street N.W., Washington, D.C. 20401; 202-275-0186.

  Ordering Information

  Title: 1988 Toxic Release Inventory
  Format: ASCII, 6250 bpi
  Price: $500

- Environmental release data for each state will be available shortly for purchase in LOTUS 1-2-3 and dBASE III formats for Apple Macintosh and IBM PC-compatible (MS-DOS) microcomputers from the National Technical Information Service and the Government Printing Office.

- The TRI report, *The Toxics Release Inventory: A National Perspective, 1988,* will provide printed detailed TRI data summaries and analyses. It will be distributed to all Federal Depository Libraries late this summer and will be available for purchase from the National Technical Information Service and the Government Printing Office.

- The TRI Reporting Center in Washington, D.C., will make data and reports from individual facilities available in its public reading room and, on a limited basis, will conduct searches and provide printouts on request. Write to Title III Reporting Center, P.O. Box 70266, Washington, D.C. 20004-0266 (Attn: Public Inquiry).

TRI Hotline

For more information about TRI or the law behind it, call EPA's Community Right-to-Know Hotline at 1-800-535-0202. In Washington, D.C., and Alaska, call 202-479-2449. Or write to EPA Emergency Planning and Community Right-to-Know Hotline, U.S. EPA (OS-120), 401 M Street, S.W., Washington, D.C. 20460.

Comparative TRI Data on Toxic Chemical Releases

	1987*	1988
Total TRI chemicals	5.01 billion pounds	4.57 billion pounds
Released into rivers, lakes, streams, and other bodies of water	0.4 billion pounds	0.36 billion pounds
Emitted into air	2.58 billion pounds	2.43 billion pounds
Disposed of in landfills	0.73 billion pounds	0.56 billion pounds
Injected into underground wells	1.3 billion pounds	1.22 billion pounds
Sent to off-site treatment and disposal facilities	1.96 billion pounds	1.67 billion pounds

***Under section 313 of the Emergency Planning and Community Right-to-Know Act, certain manufacturing facilities are required to report their annual emissions of 332 toxic chemicals and chemical categories. EPA received more than 80,000 reports from 19,762 facilities on 1988 releases. The 1987 data exclude aluminum oxide, sodium sulfate, sodium hydroxide, and melamine, which were reported that year but have since been taken off the list by petition. Data about the chemicals sent to off-site treatment and disposal facilities are listed separately here, but are not included in the figures shown for TRI chemicals released into the environment.**

EPA Announces Recent Enforcement Actions

On May 14, EPA and Worthen Industries, Inc., of Nashua, New Hampshire, entered into a consent agreement that requires Worthen to pay a civil penalty of $148,750 and to implement an annual education program on the Toxic Substances Control Act (TSCA) for its employees for at least five years. The consent agreement settles a TSCA section 5 administrative action against Worthen. The $148,750 civil penalty represents a 15 percent reduction in the proposed penalty of $175,000; the downward adjustment was made on the basis of Worthen's cooperation and good faith in addressing the alleged violations, negotiating the consent agreement, and conducting the educational program.

Also on May 14, Ethox Chemicals agreed to pay a $45,000 penalty as a result of violations of the TSCA premanufacture and notice of commencement requirements. Some of the violations were documented during an inspection of Ethox by the National Enforcement Investigations Center conducted under the authority of TSCA, and the remainder were disclosed by Ethox during the proceeding.

To obtain copies of consent agreements and complaints, please call Bessie Hammiel, hearing clerk, at 202-382-4865.

National Human Adipose Tissue Survey Available

The National Human Adipose Tissue Survey (NHATS) is an annual survey to collect and analyze a nationwide sample of human adipose tissue specimens from autopsied cadavers and surgical patients. The purpose of the survey is to identify and measure the prevalence and level of potentially toxic chemicals in human adipose tissue.

From fiscal 1970 through fiscal 1981 and in fiscal 1983, specimens were analyzed for 19 organochlorine pesticides and PCBs. For fiscal 1982, the list of target chemicals was expanded to include volatile organic compounds, additional semivolatile organic compounds beyond the 19 organochlorine pesticides and PCBs, and dioxins and furans.

Single copies of the "NHATS Broad Scan Analysis: Population Estimates from Fiscal Year 1982 Specimens," which estimates average concentrations of chemicals in the adipose tissue of the general U.S. population, are available from the TSCA Assistance Information Service (TS-799), U.S. EPA, Washington, D.C. 20460 (phone, 202-554-1404; fax, 202-554-5603). Please refer to the report's title and publication number, EPA 560/5-90-001, when requesting this document.

TSCA Inventory Update Reporting Period to Begin in August

Use of Floppy Diskettes Allowed for First Time

The 1986 rule for Partial Updating of the TSCA Inventory Data Base (40 CFR 710 Subpart B), also known as the Inventory Update Rule, requires that manufacturers and importers of substances on the TSCA Inventory report current plant site, production volume, and related data every four years. August 23, 1990, marks the beginning of a new reporting period, which runs to December 23, 1990.

All substances included on the TSCA Inventory are subject to the rule's reporting requirements, with the exception of the following: polymers, inorganic substances, microorganisms, and naturally occurring substances. Substances in these excluded categories may remain reportable, however, if they are subject to proposed or final rules or orders under sections 4, 5(a)(2), 5(e), 5(f), 6, or 7 of TSCA.

Anyone who manufactured or imported 10,000 pounds or more of a reportable substance during the company's most recent fiscal year is required to report. Some persons are exempted from reporting, such as certain small businesses and those who manufacture or import under certain limited circumstances (e.g., small quantities for research and development, nonisolated intermediates, for import as part of an article).

EPA is amending the Inventory Update Rule to allow reporting via floppy diskette and to revise the reporting form to make it easier to complete (the information to be reported will not change). Forms, instructions, and other reporting materials will be available from the agency in late July. At that time, a *Federal Register* notice will be published revising the rule and indicating how to obtain reporting materials. Persons who reported in 1986 will automatically be mailed reporting materials.

Would you like to receive the Chemicals-in-Progress Bulletin?

The Chemicals-in-Progress Bulletin is published by EPA's Office of Toxic Substances. To receive the bulletin, please send your name, company/organization name, and address with zip code to

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