

# NEWS

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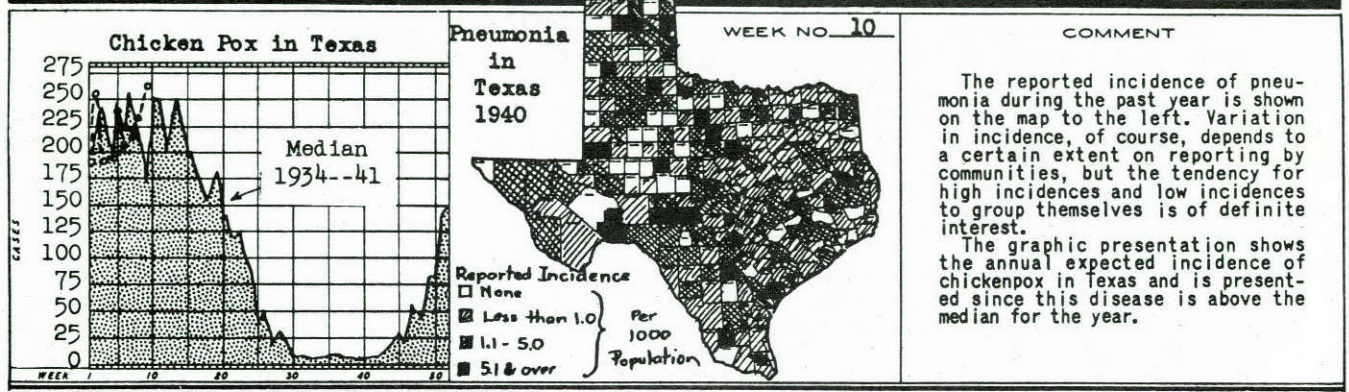
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1100 West 49th Street, Austin, Texas 78756 (512-458-7455)**

## Texas MORBIDITY *this* WEEK



## TOXICS RELEASE INVENTORY: THE NUMBERS ARE STARTLING, BUT WHAT DO THEY MEAN?\*

*Standing alone, chemical release figures are not an accurate indicator of human exposure.*

In 1986, Congress confirmed a principle that was first proposed in state law: citizens have a right to know about toxic chemicals emitted by factories in their communities. The Emergency Planning and Community Right-to-Know Act--or Title III of the 1986 Superfund Amendments--required manufacturers nationwide for the first time to reveal to the public the amounts of some 300 toxic chemicals that they release to the air, water, or land.

A newly published report from the US Environmental Protection Agency, *The Toxics Release Inventory -- A National Perspective*, summarizes the information reported by more than 19,000 facilities during the first year of the program.

Among other findings, the report reveals that manufacturing facilities released a reported 18.0 billion pounds of toxic chemicals to the environment in 1987 and transferred an additional 4.9 billion pounds off site for treatment or disposal.

Although virtually all of these releases were in compliance with environmental laws and regulations, the numbers were big enough to give

even the most inured corporate or government official pause. The figures made headlines in newspapers across the nation, no doubt reinforcing public concern about the safety of living near manufacturing plants.

However, most popular accounts lacked any explanation of the relationship between the chemical releases and human exposure to the toxins. Without such analysis, facts about reported emissions levels left the distorted impression that all Americans are exposed and at grave risk. Although the mere fact that factories are spewing such large quantities of toxins into the environment is cause for serious concern, the volume of releases cannot be interpreted as a direct measure of risks to human health.

### HEALTH RISKS REMAIN UNKNOWN

As explained in the EPA executive summary of the report, the 18.0 billion pounds of toxic releases reported in the toxics release inventory (TRI) "are not an indicator of human or environmental exposure to these chemicals." Why not? EPA makes four key points:

First, environmental releases do not always result in a person being exposed to the released substance. For example, there is zero or low exposure to humans when substances are released to landfills or are

\*Natl Governors' Assn Env Research & Tech Assistance Rep; Summer 1989:3-4.



injected in underground storage wells, disposal methods intended to isolate wastes--provided there is no unexpected failure of the landfill or injection well.

Second, releases to the air and water, while huge at 2.7 billion pounds and 9.6 billion pounds respectively, cannot be related directly to human exposure. Some gases are chemically transformed to harmless substances after release, while some acidic wastewater discharges are effectively neutralized by receiving waters. On the other hand, some environmental transformations lead to by-products of even greater concern than the original discharges, EPA notes.

Third, any meaningful interpretation of potential risk depends on knowing the ultimate fate of the materials. For example, some transferred substances go to treatment facilities where they are destroyed or isolated prior to final disposal. Others may be moved long distances--even from one part of the country to another--before being disposed of.

Finally, chemicals covered in the toxics release inventory vary widely in their toxicity. Total release and transfer figures tell only part of the story. EPA points out that a small release of a highly toxic chemical might be much more dangerous than a large release of a low-toxicity substance.

"In all cases," EPA's executive summary notes, "more information is needed to assess potential concerns than is provided by TRI data alone. TRI can only serve as an indicator to toxic chemicals that may be of concern, and hence require further attention and analysis.

#### RELEASES NOT EVENLY DISTRIBUTED

Standing on its own, the total emissions figure might leave some people with the impression that toxic pollution is ubiquitous, contaminating every city, town, and neighborhood in the country. In fact, the emissions reports submitted by industry indicate that some pockets of the country have high concentrations of toxic releases, while other large areas have virtually none.

According to the EPA summary, California's 5.8 billion pounds of release and off-site transfers dwarfed those of any other state, accounting for 26% of the nation's toxic emissions. Texas and Louisiana followed, with 2.8 billion pounds and 1.7 billion pounds of releases and transfers, respectively. Yet even in these states, there are some relatively pristine areas where zero or low levels of toxins were released, as indicated by a county-by-county map of the release and transfer data.

On a related point, the EPA executive summary notes that a single facility in California released a whopping 5.2 billion pounds of sodium sulfate--23% of the national total for all types of releases and transfers.

Nationwide, more than 12 billion pounds of sodium sulfate were released or transferred, accounting for 54% of the national total for all chemicals. According to the executive summary, EPA has been petitioned to remove sodium sulfate from the list of chemicals requiring reporting on the grounds that the chemical is not a significant toxin.

#### USES OF THE TRI DATA

Although the TRI data cannot be taken as a direct indicator of public exposure, several types of analysis are appropriate using the TRI data. For example, by examining data from areas that lie within the Chesapeake Bay's drainage basin, it would be possible to determine the chemicals that might eventually wind up in the bay.

The data could also be used to gain a picture of the international export of chemical wastes. The EPA executive summary notes that US facilities named 13 different sites outside the country to which they transferred six million pounds of chemical wastes.

The data could also be used to analyze environmental releases in a particular city or zip code area. Amounts of chemicals transferred to the city from other areas could also be determined.

Finally, the data could be combined with information from other sources to perform various types of analysis. For example, a comparison could be made between the TRI release data and measurements of chemical concentrations found in the environment to determine the relationship between industrial sources and environmental distributions. Or the data could be used to check the accuracy of models that attempt to predict chemical dispersion in the environment, among other possibilities.

#### FOR MORE INFORMATION....

Copies of the 340-page report are available for \$14 from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402-9325; telephone: (202) 783-3238. Request *The Toxics Release Inventory--A National Perspective, 1987*, stock number 055-000-00290-8. Copies of the 24-page executive summary are available for \$1.50 from the same address. Request *The Toxics Release Inventory Executive Summary, 1987*, stock number 055-000-00289-4. Make check or money order payable to the Superintendent of Documents.

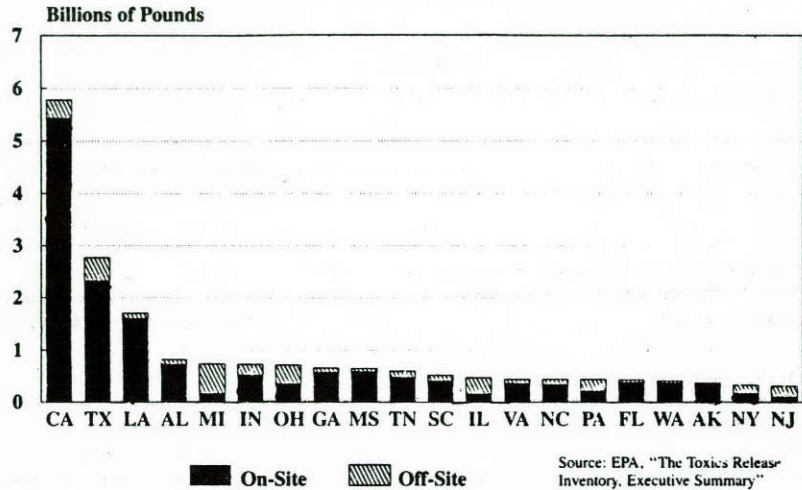
The TRI Reporting Center in Washington, DC can accommodate limited requests for TRI information on individual facilities. Requests should provide the name and address of the facility of interest and should be sent to the EPA TRI Reporting Center, 470-490 L'Enfant Plaza, Suite 7103, Washington, DC 20022.



TRI data is also accessible on computer through the National Library of Medicine's TOXNET database. For information, contact TRI Representative, Specialized Information Services, National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20864; telephone (301) 496-6531.

TRI data is also available on magnetic tape, microcomputer floppy disk (for individual state data), microfiche (for state data or the national inventory), and CD-ROM (laser compact disk). For ordering information, contact the Emergency Planning and Community Right-to-Know Hotline at 1-800-535-0202.

**Figure 1.**  
**The 20 states with the largest total releases and transfers**



Source: EPA. "The Toxics Release Inventory, Executive Summary"

\* \* \*

**VACCINE-PREVENTABLE DISEASE UPDATE**  
**PROVISIONAL DATA**  
**Weeks 5-8 (February)**

**CONFIRMED AND SUSPECTED MEASLES**

County	Latest Rash Onset	# Cases	Affected Population
Bastrop	02/13/90	1	Pre-school
Baylor	02/12/90	1	Adult
Bowie	02/23/90	1	Pre-school
Brazos	02/14/90	6	Pre-school, Adult, College
Cameron	02/20/90	44	All age groups
Collin	02/15/90	8	All age groups
Dallas	02/19/90	778	All age groups
Denton	02/19/90	31	All age groups
El Paso	02/21/90	121	All age groups
Ellis	02/13/90	7	All age groups
Erath	02/11/90	10 *	Pre-school, College
Franklin	02/19/90	1	
Gaines	02/03/90	2	Pre-school
Grayson	02/17/90	74 *	College
Gregg	02/23/90	2	
Grimes	02/14/90	5	Pre-school, School-age
Harris	02/12/90	18	All age groups
Hill	02/14/90	8	All age groups
Hunt	02/13/90	5	All age groups
Jefferson	02/22/90	1	School age
Johnson	02/14/90	4	School-age, College
Kaufman	02/14/90	5	All age groups
Lampasas	02/01/90	1	Pre-school
LaSalle	02/19/90	2	Pre-school
Maverick	02/12/90	2	Pre-school, School-age
McLennan	02/16/90	4	All age groups
Midland	02/06/90	1	Pre-school

**CONFIRMED AND SUSPECTED MEASLES**

County	Latest Rash Onset	# Cases	Affected Population
Morris	02/23/90	10	
Palo Pinto	02/14/90	4	All age groups
Parker	02/05/90	4	Pre-school, College
Reeves	02/01/90	1	School-age
Rockwall	02/14/90	2	Pre-school
Smith	02/19/90	1	
Sutton	02/01/90	1	Adult
Tarrant	02/19/90	33	All age groups
Taylor	02/01/90	1	College
Titus	02/23/90	20	All age groups
Tom Green	02/01/90	5	All age groups
Travis	02/25/90	15	All age groups
Upshur	02/21/90	1	Pre-school
Webb	02/22/90	170	All age groups
Wharton	02/20/90	2 **	Adult
Willacy	02/15/90	1	Pre-school
Wood	02/18/90	3	All age groups
Zapata	02/20/90	1	Pre-school
<b>Total</b>		<b>1,418</b>	

\*Cases occurring mainly in the college population  
\*\*Possible importation from Mexico

**NO CONFIRMED CASES OF RUBELLA OR PERTUSSIS REPORTED DURING WEEKS 5-8.**

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