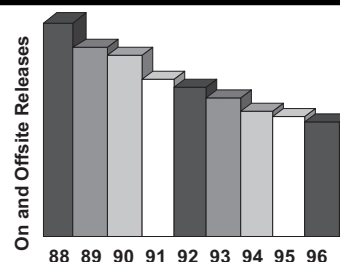

Chapter 3



Year-to-Year Comparison of Toxics Release Inventory Data

This chapter compares TRI data for on- and off-site releases, on-site waste management, and transfers off-site for further waste management for the current and most recent year (1996 and 1995) and for recent years and the TRI baseline reporting year (1994-1996 and 1988). However, not all data were collected in 1988. This chapter therefore also looks at waste management data for recent years and the year that TRI began collecting such information (1994-1996 and 1991).

The discussion of “core” chemical lists, in the Introduction below, is important for accurate interpretation of these year-to-year comparisons, because of the important changes in TRI over time.

Introduction

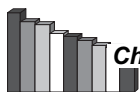
Because TRI data are collected annually, they can be used to measure the nation’s progress in reducing toxic chemical releases and other wastes managed by manufacturing facilities. This chapter attempts to measure such progress on a national, state, and chemical-specific basis. Industry-specific analyses of year-to-year change in TRI reporting appear in Chapters 4 through 10.

Tables in this chapter compare data for 1995 and 1996 to highlight recent changes in reporting. These tables give the first two-year view of TRI reporting since the addition of nearly 300 substances in reporting year 1995.

Other tables compare data for 1994 to 1996 with the 1988 data to measure progress from the beginning of the TRI. Although 1987 was the first year for TRI reporting, 1988 has been chosen as the baseline year for comparisons because of concerns about the data quality of industry’s submissions in the first year. In most sections of this chapter, the recent two-year data (1995-1996) are presented first, followed in a comparable table by the multi-year data (1988 and 1994-1996).

For the waste management activities, progress can be measured from 1991, when such data were added to TRI. This section analyzes first actual quantities for previous and current years (1991 and 1994-1996) followed by a comparison of facilities’ actual and projected data (1991, 1995-1996, and projections for 1997-1998).

Certain TRI reporting requirements have changed since the inception of the program—not only the addition of waste management data in 1991, but also the chemical expansion that nearly doubled the



TRI chemical list beginning with 1995 reporting. It is important to understand these and other changes and consider their implications when comparing TRI data across years.

“Core” Chemicals for Year-to-Year Comparisons

EPA has the authority to add chemicals to the reporting list if they meet the statutory toxicity criteria and to delete chemicals from the list if EPA determines that they do not meet the toxicity criteria. Since 1987, EPA has deleted a number of chemicals from the list, added others, and modified the reporting requirements for others. The largest expansion has been the chemicals added for the 1995 reporting year, implementing Phase 1 of a three-part expansion of TRI (see Chapter 1 for additional information on TRI expansion).

Year-to-year comparisons must be based on a consistent set of chemicals to assure that any changes in releases or other waste management do not simply reflect the addition, deletion, or change in definition of reportable chemicals from one year to another. Data in this chapter represent facility reporting only for the “core” chemicals for the years being compared. The set of “core” chemicals differs depending on which years are represented in the tables.

1995-1996 Comparisons

Tables comparing data for 1995 and 1996 include all chemicals currently reportable to TRI; there was no change in TRI’s chemical coverage between these two years. Thus, these tables include the nearly 300 chemicals added to TRI beginning with reporting year 1995. Because the chemical list has not changed, 1996 totals for on- and off-site releases, other on-site waste management, and transfers off-site for further waste management are the same as the totals in Chapter 2.

Multi-Year Comparisons

Tables for 1988 to 1996 include only chemicals that were reportable in all years from 1988 through 1996. These tables do not include, for example, chemicals added in 1990, 1991, 1994, or 1995. Also, for 1989, non-fibrous forms of aluminum oxide were removed from the list. Because of this modification, aluminum oxide is not included in any year-to-year comparison that includes the year 1988. As explained below, the reporting definitions for ammonia, hydrochloric acid, and sulfuric acid have changed, and they therefore are also not included in these tables. These tables summarize reporting for the 1988-1996 “core” chemicals.

Similarly, tables that compare data for 1991 to 1996 do not include chemicals added in 1994 or 1995. These tables analyze TRI data for only the chemicals that were on the TRI list, in the same form, for all years 1991-1996.

Because of this normalization process, done to assure accurate year-to-year comparisons, totals for 1996 in the multi-year tables differ from the 1996 totals in Chapter 2 and in the two-year tables in this chapter.

None of the tables includes any chemical deleted from the TRI list, regardless of the year it was deleted.

TRI data are reported as absolute amounts each year, not as changes in relation to production levels or other factors, such as source reduction activity, that might influence these amounts from year to year. The chapters that present industry-specific analyses, however, take a very basic look at changes in production as they may relate to increases and decreases in releases and other waste management of TRI chemicals.

**Box 3-1. An Explanation of the Modification to the Reporting Requirements for Aqueous Ammonia and the Delisting of Ammonium Sulfate (Solution) and Ammonium Nitrate (Solution)****An Explanation of the Modification to the Reporting Requirements for Aqueous Ammonia and the Delisting of Ammonium Sulfate (Solution) and Ammonium Nitrate (Solution)**

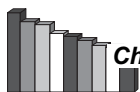
On June 30, 1995, EPA finalized four actions in response to a petition to delete ammonium sulfate (solution) from the list of toxic chemicals subject to reporting under EPCRA Section 313: (1) deleted the sulfate portion of ammonium sulfate (solution) from the list of toxic chemicals and made the ammonia portion reportable under the ammonia listing, (2) required that threshold and release determinations for aqueous ammonia be based on 10% of the total aqueous ammonia present in aqueous solutions of ammonia, (3) modified the ammonia listing by adding this qualifier: “ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10% of total aqueous ammonia is reportable under this listing),” and (4) removed the specific listing for ammonium nitrate (solution), although the ammonia portion is still reportable under the ammonia listing and, as discussed below, ammonium nitrate is also reportable under the nitrate compounds category. All actions were effective for the 1994 reporting year (reports due July 1, 1995), except for deletion of the specific listing for ammonium nitrate (solution), which became effective with the 1995 reporting year.

In previous years, there was a great deal of confusion as to what should be reported under the ammonia listing, specifically over the sources of aqueous ammonia that must be included and how aqueous ammonia should be reported. Modifying the ammonia listing by adding the above qualifier should result in more consistent and accurate reporting under this listing since it clarifies what is reportable. The requirement to report only 10% of total aqueous ammonia under the ammonia listing takes into account the fact that one form of ammonia is relatively more toxic to aquatic organisms and that under many environmental conditions this form makes up no more than 10% of total aqueous ammonia. The 10% reporting limit for aqueous ammonia means that some facilities will no longer meet reporting thresholds and that the pounds of aqueous ammonia reported as released and transferred from the facilities that do report may be lower. It is important to remember that the 10% reporting limit only applies to aqueous ammonia; anhydrous ammonia is still 100% reportable.

Although ammonium sulfate (solution) has been deleted from the list, the aqueous ammonia from this chemical is still reportable under the ammonia listing. To determine the amount of aqueous ammonia from ammonium sulfate (solution) that should be added to the aqueous ammonia totals, the amount of ammonium sulfate (solution) is multiplied by 0.026. This represents 10% of the total aqueous ammonia present in ammonium sulfate (solution) since ammonia (as NH_3) makes up 26% of ammonium sulfate.

The removal of the ammonium nitrate (solution) listing is reflected in this public data release. Like ammonium sulfate (solution), the aqueous ammonia from ammonium nitrate (solution) is reportable under the ammonia listing. To determine the amount of aqueous ammonia from ammonium nitrate (solution) that should be added to the aqueous ammonia totals, the amount of ammonium nitrate (solution) is multiplied by 0.021. This represents 10% of the total aqueous ammonia present in ammonium nitrate (solution) since ammonia (as NH_3) makes up 21% of ammonium nitrate. In addition, ammonium nitrate is also reportable under the nitrate compounds category, which was added for the 1995 reporting year. Although this chemical is reportable under two listings, no double reporting of releases or transfers occurs since under the nitrate compounds category only the weight of the nitrate ion is included in calculations of releases and transfers.

To determine the quantity of total aqueous ammonia released to surface water, land, or underground injection, data users must multiply the reported quantity by 10. For example, to make use of the quantities reported for aqueous ammonia in any analysis of releases to surface waters, the reported amounts must be converted to total aqueous ammonia values. This is necessary in order to take into account site specific conditions of pH and temperature which determine the amount of total ammonia that will be present in the more aquatically toxic form. To convert the reported aqueous ammonia values to total ammonia, simply multiply amounts by 10.



Box 3-2. An Explanation of the Modification to the Reporting Requirements for Hydrochloric and Sulfuric Acid

An Explanation of the Modification to the Reporting Requirements for Hydrochloric and Sulfuric Acid

On June 30, 1995, EPA finalized a modification to the listing for sulfuric acid, and on July 25, 1996, EPA finalized the same modification to the listing for hydrochloric acid. These two chemical listings were modified by the addition of the following qualifier: “(acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size).” The modification to sulfuric acid was effective for the 1994 reporting year and the modification to hydrochloric acid was effective for the 1995 reporting year. EPA made these modifications in response to petitions to delist the non-aerosol forms of these chemicals. EPA determined that the non-aerosol forms did not meet the listing criteria of EPCRA Section 313(d) and therefore granted the petitions. These modifications mean that facilities are no longer required to report releases and transfers of non-aerosol forms of sulfuric and hydrochloric acid under EPCRA Section 313.

These changes in the reporting requirements for sulfuric and hydrochloric acid are reflected in the large reductions in reported amounts of these chemicals as compared to those in previous years’ *TRI Public Data Release* reports. Most of these reductions result from the fact that solutions of these chemicals that do not become airborne are exempt from reporting. Thus there are large reductions in the amounts released, particularly quantities discharged to surface waters and injected underground and in amounts reported for most types of transfers. Since airborne forms are still covered by these listings, reported fugitive or nonpoint air emissions have not changed as much as other types of releases, and there has been little change in the stack or point air emission totals. In addition to lower reported releases and transfers, some facilities may no longer exceed reporting thresholds for the aerosol forms only and thus may not have to file a report.

Reporting of Ammonia, Hydrochloric Acid, and Sulfuric Acid

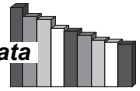
As described in Box 3-1, reporting requirements for ammonia have changed. Also, ammonium sulfate and ammonium nitrate are no longer individually listed on TRI. The ammonia portion of these chemicals, however, remains on the TRI list, and the nitrate ion portion of ammonium nitrate is reportable under the newly added nitrate compounds category (added as a category for the 1995 reporting year).

In addition, non-aerosol forms of hydrochloric acid and sulfuric acid have been removed from the list, hydrochloric acid with the 1995 reporting year and sulfuric acid in 1994 (see Box 3-2). This means that only airborne forms of these chemicals count towards the reporting threshold and release calculations, and releases of their non-aerosol forms are no longer reportable. Because of this modification to the reporting requirements, these chemicals are not included in multi-year comparisons in this chapter (tables with data for 1988 or for 1991).

Threshold Changes

Facilities are required to report for a particular chemical only if they meet the manufacture, process, or otherwise use thresholds for that chemical. The otherwise use threshold has remained 10,000 pounds since the inception of the program. However, the manufacture and process thresholds began at 75,000 pounds for 1987, dropped to 50,000 pounds for 1988, and dropped again to 25,000 pounds for 1989 and thereafter. Due in part to these declining thresholds, the number of facilities reporting to TRI and the number of forms filed increased from 1987 to 1988 and again from 1988 to 1989. These threshold changes may have affected the TRI data between 1988 and 1989, but would not affect data after 1989.

As explained in Chapter 1, facilities whose “total annual reportable amount” for a reportable chemical does not exceed 500 pounds can submit certification statements (Form As) instead of Form Rs (if they do not manufacture, process, or otherwise use more than 1 million pounds of the chemical). This change became effective in reporting year 1995. Form A certification statements identify the facility



and chemical, but do not supply any amounts of releases or other waste management data. In prior years, facilities were required to report such amounts, and totals for 1988-1994 include their submissions. Nearly 6,500 Form A certification statements were submitted in 1995 and more than 7,200 in 1996—these do not provide releases or other waste management amounts. Thus, some portion of any decrease in reported amounts from 1994 or earlier years would be attributable to the submission of these “certification” forms.

Underground Injection and On-site Land Releases

In 1996, TRI began collecting data separately for types of underground injection and for on-site land releases to RCRA Subtitle C landfills. Instead of reporting a total for underground injection in Form R’s Section 5, facilities began reporting amounts injected into Class I wells separately from amounts injected into underground wells of other classes (II-V). RCRA Subtitle C landfills were separated out from other types of on-site land releases that are collected in Section 5. Because these releases were not broken out until 1996, they cannot be analyzed separately in the multi-year comparisons.

On- and Off-site Waste Management

As described in Chapter 2, the federal Pollution Prevention Act of 1990 added to TRI the collection of additional on- and off-site waste management data (recycling, energy recovery, treatment, and releases). Data collection began in 1991. In this *1996 TRI Public Data Release*, on-site waste management—quantities of on-site recycling, energy recovery, and treatment—is presented in the summary tables. (Details of this new approach to data presentation appear in Chapter 1.) Because these data were not collected until 1991, comparisons cannot be drawn with 1988 data. Analysis of the full waste management data, on- and off-site, appear in tables that compare 1991 and 1994-1996 data.

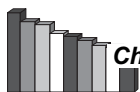
New Types of Off-site Transfers

Beginning with the 1991 reporting year, facilities were required to report transfers off-site for the purposes of recycling and energy recovery to TRI. Prior to 1991, facilities were required to report only transfers to POTWs and other off-site locations for the purposes of treatment and disposal. Because of this change in the reporting requirements, transfers off-site for further waste management for 1988 are not comparable to such transfers for 1991 and beyond. Comparisons between 1988 and 1996 transfers in this chapter include only those transfer types that were reportable in 1988. Comparisons for 1991 to 1996 and for 1995 to 1996 include all transfer types reportable for 1991 and beyond.

Reasons for Change

Box 3-3 provides reasons that a facility’s reported amounts may change from one year to another. Explanations for changes in reporting amounts include actual source reduction projects undertaken to reduce a facility’s generation of waste of a particular chemical, increases or decreases in production levels, changes in a facility’s methods of estimating or calculating reportable amounts (which does not indicate a corresponding change in actual releases and waste management), reporting errors in previous years for which the facility has not filed a revised submission, and others.

Apparent increases and decreases among industries can also result when facilities change the SIC codes they report from one year to another, reflecting new or discontinued facility operations or indicating a different understanding of how SIC codes relate to the facility’s business. This can occur among two-, three-, or four-digit SIC codes.



Box 3-3. Reasons Facility Release and Other Waste Management Estimates Change

Reasons Facility Release and Other Waste Management Estimates Change

Some reported increases and decreases are real—that is, they reflect changes in the amounts of TRI chemicals actually released or otherwise managed in waste. Other reported increases and decreases are accounting or “paper” changes that do not reflect any actual change in releases or other waste management. Some examples follow.

Real Changes

Source reduction activities, such as process changes, elimination of spills and leaks, inventory control, improved maintenance, chemical substitution, and alternative methods of cleaning and degreasing can cause real reductions in the amount of waste generated and or managed.

The installation of pollution control equipment does not reduce the amount of waste generated, but may lead to real reductions in TRI chemicals released. However, if the pollution control does not destroy the reported chemical, it may merely shift waste from one type of waste management to another.

Production changes can cause real changes in the quantities of TRI chemicals released or otherwise managed as waste by facilities. Production-related waste is likely to increase when production increases and decrease when production decreases, although the relationship is not necessarily linear.

One-time events unrelated to normal production processes, such as accidental releases or clean-up operations, can cause a real but anomalous increase in the reporting year in which they occur and then a decrease from that abnormally high level the following year.

“Paper” Changes

Changes in estimation or calculation techniques can cause a change in the amount reported without a corresponding change in actual quantities released or otherwise managed as waste.

Clarifications of reporting instructions or changes in the way a facility interprets those instructions may cause a change in reported amounts without an actual change in quantities released or otherwise managed as waste.

Changes in the reporting definition of a particular chemical may cause a change in the reported amounts without an actual change in quantities released or otherwise managed as waste. For example, revising the definitions of sulfuric acid and hydrochloric acid to include only aerosol forms, as discussed in Chapter 4, will result in lower reports of releases, when non-aerosol forms are no longer reported.

Similarly, a facility’s use of the alternate threshold may result in a reported decrease without an actual reduction in releases if the facility begins to take advantage of an alternate manufacture, process, or otherwise use threshold of more than 1 million pounds. Beginning in the 1995 reporting year, some facilities whose “total annual reportable amount” for a reportable chemical does not exceed 500 pounds may use an alternate manufacture, process or otherwise use threshold of more than 1 million pounds of the chemical. If they do not exceed this alternate threshold, they no longer need to report amounts of releases or other waste management activities.

Apparent increases or decreases can occur if a facility makes a reporting error one year and does not submit a revision for that year, but does not repeat the error the following year.



Table 3-1. Comparison of TRI On-site and Off-site Releases, Other On-site Waste Management, and Transfers Off-site for Further Waste Management, 1995-1996

	1995	1996	Change 1995-1996	
	Number	Number	Number	Percent
Total Facilities	22,378	21,626	-752	-3.4
Total Forms	74,523	71,381	-3,142	-4.2
Form Rs	68,054	64,147	-3,907	-5.7
Form As	6,469	7,234	765	11.8
	Pounds	Pounds	Pounds	Percent
<u>On-site Releases</u>				
Total Air Emissions	1,567,430,307	1,452,089,962	-115,340,345	-7.4
Fugitive Air	388,749,847	355,271,752	-33,478,095	-8.6
Point Source Air	1,178,680,460	1,096,818,210	-81,862,250	-6.9
Surface Water Discharges	159,768,195	173,288,209	13,520,014	8.5
Underground Injection	240,175,124	204,329,109	-35,846,015	-14.9
On-site Land Releases	282,979,493	309,063,206	26,083,713	9.2
Total On-site Releases	2,250,353,119	2,138,770,486	-111,582,633	-5.0
<u>Off-site Releases</u>				
Transfers Off-site to Disposal	280,432,818	294,736,096	14,303,278	5.1
Total On- and Off-site Releases	2,530,785,937	2,433,506,582	-97,279,355	-3.8
<u>Other On-site Waste Management</u>				
Recycled On-site	11,530,185,859	7,842,595,142	-3,687,590,717	-32.0
Energy Recovery On-site	2,837,073,887	2,761,739,445	-75,334,442	-2.7
Treated On-site	7,116,384,251	7,139,861,921	23,477,670	0.3
Total Other On-site Waste Management	21,483,643,997	17,744,196,508	-3,739,447,489	-17.4
<u>Transfers Off-site for Further Waste Management</u>				
Transfers to Recycling	2,237,556,735	2,150,593,994	-86,962,741	-3.9
Transfers to Energy Recovery	517,241,590	477,056,570	-40,185,020	-7.8
Transfers to Treatment	286,937,220	290,096,828	3,159,608	1.1
Transfers to POTWs	245,373,576	235,813,508	-9,560,068	-3.9
Other Off-site Transfers	2,394,496	3,306,380	911,884	38.1
Total Transfers Off-site for Further Waste Management	3,289,503,617	3,156,867,280	-132,636,337	-4.0

Note: **On-site Releases** from Section 5 of Form R. **Off-site Releases** from Section 6 (transfers off-site to disposal) of Form R. **Other On-site Waste Management** from Section 8 of Form R. **Total Transfers Off-site for Further Waste Management** from Section 6 (excluding transfers off-site to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases not required in 1995. Other Off-site Transfers are transfers reported without a valid waste management code.



TRI Data for 1995-1996 and for 1988, 1994-1996

National Overview

On- and Off-site Releases

Reported releases of toxic chemicals to the environment, on- and off-site, decreased by 97.3 million pounds from 1995 to 1996, from 2.53 billion pounds to 2.43 billion pounds (see Table 3-1). This represents a decline of 3.8%. The greatest reduction occurred in reported air emissions (115.3 million pounds, or a 7.4% decrease). Injection of TRI chemicals into underground wells decreased 35.8 million pounds, or 14.9%. Other release categories all showed increases for the two-year period: Discharges to surface water increased 13.5 million pounds (an 8.5% increase) and on-site releases to land increased 26.1 million pounds (9.2%). Altogether, on-site releases decreased 111.6 million pounds, or 5.0%, from 1995 to 1996. Off-site releases (transfers off-site to disposal) increased 14.3 million pounds, or 5.1%. Table 3-1 compares the 1996 TRI data to the 1995 data.

From 1988 to 1996, on- and off-site releases of the “core” chemicals reported to TRI in all years decreased by 1.53 billion pounds, a 45.6% decline. The largest decrease occurred in air emissions (1.10 billion pounds, or 49.8%). In percentage terms, surface water discharges showed the largest decrease (72.6%, or 119.4 million pounds). On-site releases decreased 1.41 billion pounds from 1988 to 1996, a 47.5% decrease. Off-site releases (transfers to disposal) decreased by 121.5 million pounds, or 31.4%. Table 3-2 and Figure 3-1 compare the 1996 TRI data to the 1988 data.

Other On-site Waste Management

From 1995 to 1996, on-site waste management reported to TRI decreased 17.4%, or 3.74 billion pounds, as shown in Table 3-1. By far the greatest

part of this decrease occurred in on-site recycling, a 32.0% decrease, or 3.69 billion pounds in 1996. In 1995, on-site recycling represented more than half (53.6%) of all on-site waste management. In 1996, on-site recycling was 44.2% of the total.

TRI did not collect on-site waste management data in 1988. As explained in Chapter 2, such data were added to TRI in 1991. Table 3-2 presents on-site recycling, energy recovery, and treatment data for 1994-1996. Total on-site waste management decreased from 14.22 billion pounds in 1994 to 13.68 billion pounds in 1995, and increased again to 14.04 billion pounds in 1996.

Transfers Off-site for Further Waste Management

Reported transfers of TRI chemicals to off-site locations for further waste management decreased by 132.6 million pounds from 1995 to 1996 (see Table 3-1). This represents a decrease of 4.0%. Transfers to recycling decreased 87.0 million pounds (3.9% decrease). Transfers to energy recovery decreased 40.2 million pounds (7.8% decrease). Also decreasing were transfers to POTWs, by 9.6 million pounds, or 3.9%. The two remaining categories showed increases: transfers to treatment by 3.2 million pounds (1.1%) and other off-site transfers (those without valid waste management codes) by 912,000 pounds (38.1%).

Because transfers to recycling and energy recovery were not reportable in 1988, total transfers for 1996 cannot be compared to total transfers for 1988. However, transfers to POTWs and other off-site locations for the purposes of treatment have declined 37.5% since 1988 (see Table 3-2).

Facilities and Forms

The number of facilities reporting to TRI decreased 3.4% from 1995 to 1996, from 22,378 to 21,626 (see Table 3-1). The number of individual chemical reports dropped 4.2%, from 74,523 in 1995 to 71,381 in 1996. However, the number of facilities and forms for 1996 is likely to rise somewhat over



Table 3-2. Comparison of TRI On-site and Off-site Releases, Other On-site Waste Management, and Transfers Off-site for Further Waste Management, 1988 and 1994-1996

	1988	1994	1995	1996	Change 1988-1996	
	Number	Number	Number	Number	Number	Percent
Total Facilities	20,436	20,946	20,356	19,726	-710	-3.5
Total Forms	62,711	63,488	61,885	59,799	-2,912	-4.6
Form Rs	62,711	63,488	56,693	53,934	—	—
Form As	—	—	5,192	5,865	—	—
	Pounds	Pounds	Pounds	Pounds	Pounds	Percent
<u>On-site Releases</u>						
Total Air Emissions	2,180,862,321	1,280,285,817	1,191,260,290	1,095,413,106	-1,085,449,215	-49.8
Fugitive Air	680,928,993	351,433,000	304,738,454	276,183,228	-404,745,765	-59.4
Point Source Air	1,499,933,328	928,852,817	886,521,836	819,229,878	-680,703,450	-45.4
Surface Water Discharges	164,551,386	39,794,843	35,918,865	45,144,135	-119,407,251	-72.6
Underground Injection	161,969,132	114,135,765	139,908,494	118,222,387	-43,746,745	-27.0
On-site Land Releases	459,114,111	289,341,251	272,424,588	299,979,550	-159,134,561	-34.7
Total On-site Releases	2,966,496,950	1,723,557,676	1,639,512,237	1,558,759,178	-1,407,737,772	-47.5
<u>Off-site Releases</u>						
Transfers Off-site to Disposal	386,461,584	259,228,230	255,777,935	265,005,866	-121,455,718	-31.4
Total On- and Off-site Releases	3,352,958,534	1,982,785,906	1,895,290,172	1,823,765,044	-1,529,193,490	-45.6
<u>Other On-site Waste Management</u>						
Recycled On-site	—	6,518,368,024	6,139,069,594	6,209,509,900	—	—
Energy Recovery On-site	—	3,138,177,326	2,688,189,212	2,585,785,910	—	—
Treated On-site	—	4,566,261,474	4,855,675,960	5,246,425,791	—	—
Total Other On-site Waste Management	—	14,222,806,824	13,682,934,766	14,041,721,601	—	—
<u>Transfers Off-site for Further Waste Management</u>						
Transfers to Recycling	—	2,200,760,073	2,173,558,832	2,094,268,207	—	—
Transfers to Energy Recovery	—	459,576,125	488,954,630	446,487,845	—	—
Transfers to Treatment	369,204,491	221,230,371	236,496,866	248,020,028	-121,184,463	-32.8
Transfers to POTWs	254,808,420	159,934,847	155,173,872	141,995,045	-112,813,375	-44.3
Other Off-site Transfers	43,279,087	5,094,462	2,186,886	3,078,759	—	—
Total Transfers Off-site for Further Waste Management	—	3,046,595,878	3,056,371,086	2,933,849,884	—	—

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 of Form R. **Off-site Releases** from Section 6 (transfers off-site to disposal) of Form R. **Other On-site Waste Management** from Section 8 of Form R. **Total Transfers Off-site for Further Waste Management** from Section 6 (excluding transfers off-site to disposal) of Form R. Form A certification statement reporting began in 1995 reporting year. Breakdown of Underground Injection and On-site Land Releases began in 1996 reporting year. Other On-site Waste Management began in 1991 reporting year. For 1994-1996, Other Off-site Transfers are transfers reported without a valid waste management code. For 1988, Other Off-site Transfers are transfers reported without a valid waste management code or codes not required to be reported in 1988.

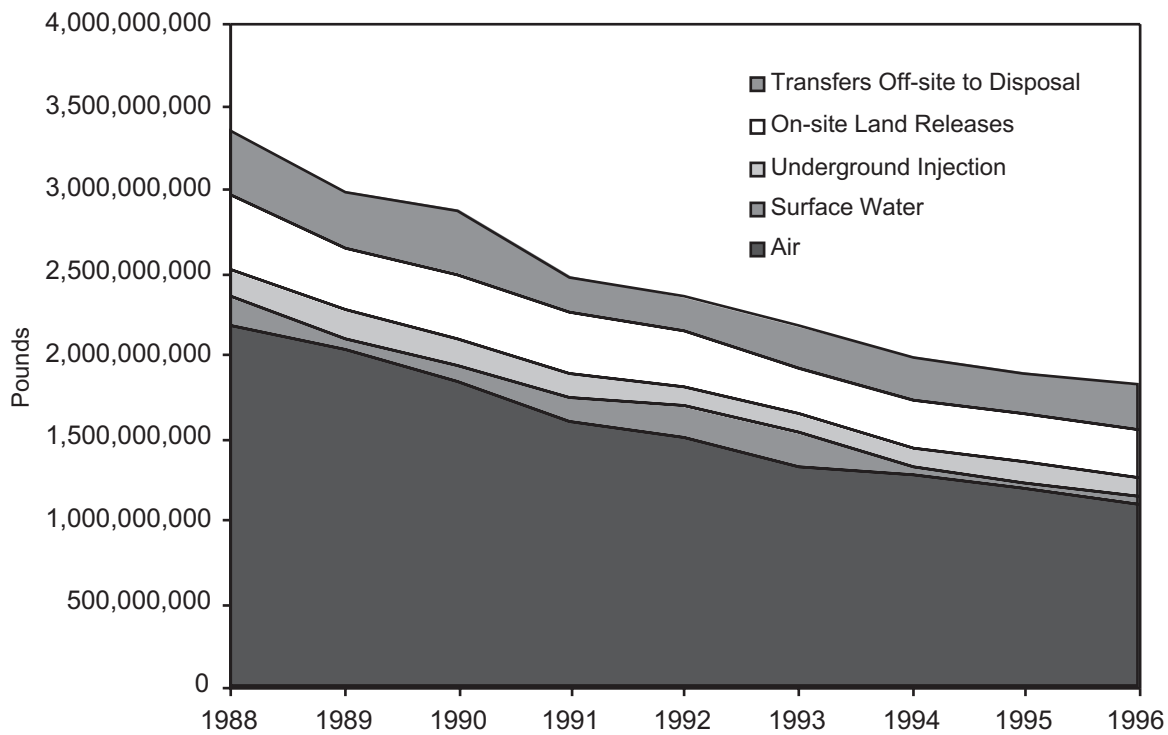
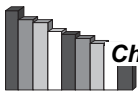


Figure 3-1. Distribution of TRI On-site and Off-site Releases, 1988-1996

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 of Form R. Off-site Releases from Section 6 (transfers off-site to disposal) of Form R.

time due to late reporting and to resolution of outstanding data quality problems that may have prevented data entry of some submissions prior to the preparation of this report. Form A certification statements, described above and in Chapter 1, rose by 11.8% from 6,469 forms in 1995—the first year in which facilities could submit these certification statement forms—to 7,234 in 1996. This may reflect both increasing awareness of the reduced reporting option and more facilities meeting the alternative threshold for one or more chemicals.

The total number of facilities and forms increased from 1988 to 1989, probably as a result of the changes in reporting thresholds described earlier in this chapter, but has steadily decreased since 1989.

TRI Data by State for 1995-1996 and for 1988, 1994-1996

On- and Off-site Releases

Table 3-3 compares the on- and off-site releases reported by each state and territory for 1995-1996.

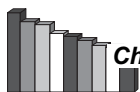


Table 3-3. Change in Total TRI On-site and Off-site Releases, by State, 1995-1996

State	Total On- and Off-site Releases		Change 1995-1996	
	1995 Pounds	1996 Pounds	Pounds	Percent
Alabama	114,569,098	102,922,534	-11,646,564	-10.2
Alaska	6,846,330	6,908,783	62,453	0.9
American Samoa	5,300	10,500	5,200	98.1
Arizona	36,029,888	47,964,210	11,934,322	33.1
Arkansas	36,666,519	34,032,075	-2,634,444	-7.2
California	53,371,343	50,082,638	-3,288,705	-6.2
Colorado	4,904,183	5,711,491	807,308	16.5
Connecticut	11,142,254	8,185,179	-2,957,075	-26.5
Delaware	4,581,541	3,660,020	-921,521	-20.1
District of Columbia	56,965	9,460	-47,505	-83.4
Florida	87,437,629	80,957,682	-6,479,947	-7.4
Georgia	59,899,944	58,831,731	-1,068,213	-1.8
Guam	3,100	3,000	-100	-3.2
Hawaii	656,692	540,267	-116,425	-17.7
Idaho	14,119,613	15,152,687	1,033,074	7.3
Illinois	116,268,362	107,663,656	-8,604,706	-7.4
Indiana	109,379,172	108,988,034	-391,138	-0.4
Iowa	37,563,633	33,308,409	-4,255,224	-11.3
Kansas	28,799,951	26,576,384	-2,223,567	-7.7
Kentucky	44,970,126	47,366,863	2,396,737	5.3
Louisiana	176,511,587	184,537,787	8,026,200	4.5
Maine	11,099,820	9,351,265	-1,748,555	-15.8
Maryland	18,089,205	13,098,751	-4,990,454	-27.6
Massachusetts	9,647,728	9,977,171	329,443	3.4
Michigan	97,347,294	90,158,602	-7,188,692	-7.4
Minnesota	24,266,126	20,970,579	-3,295,547	-13.6
Mississippi	59,125,820	54,846,362	-4,279,458	-7.2
Missouri	61,155,067	59,794,580	-1,360,487	-2.2
Montana	43,930,146	48,477,642	4,547,496	10.4
Nebraska	15,036,555	13,022,778	-2,013,777	-13.4
Nevada	3,901,466	3,766,636	-134,830	-3.5
New Hampshire	2,613,251	2,468,237	-145,014	-5.5
New Jersey	16,640,661	18,076,905	1,436,244	8.6
New Mexico	18,628,936	19,963,709	1,334,773	7.2
New York	42,167,744	35,654,003	-6,513,741	-15.4
North Carolina	90,688,050	85,174,574	-5,513,476	-6.1
North Dakota	2,932,908	2,325,120	-607,788	-20.7
Ohio	151,612,974	145,139,835	-6,473,139	-4.3
Oklahoma	29,935,400	26,421,809	-3,513,591	-11.7
Oregon*	24,114,188	29,735,693	5,621,505	23.3
Pennsylvania	127,359,536	122,423,185	-4,936,351	-3.9
Puerto Rico	10,013,489	8,548,778	-1,464,711	-14.6
Rhode Island	3,245,230	2,601,984	-643,246	-19.8
South Carolina	58,422,453	56,668,160	-1,754,293	-3.0
South Dakota	2,053,238	5,196,074	3,142,836	153.1
Tennessee	110,921,772	103,874,399	-7,047,373	-6.4
Texas	301,959,443	267,440,786	-34,518,657	-11.4
Utah	78,423,116	82,889,834	4,466,718	5.7
Vermont	672,785	462,849	-209,936	-31.2
Virgin Islands	1,493,257	1,506,139	12,882	0.9
Virginia	54,688,060	56,092,193	1,404,133	2.6
Washington	29,192,714	28,439,371	-753,343	-2.6
West Virginia	32,014,064	28,837,730	-3,176,334	-9.9
Wisconsin	42,573,080	47,023,091	4,450,011	10.5
Wyoming	11,037,131	9,664,368	-1,372,763	-12.4
Total	2,530,785,937	2,433,506,582	-97,279,355	-3.8

Note: On-site Releases from Section 5 of Form R. Off-site Releases from Section 6 (transfers off-site to disposal) of Form R.

* One facility in Oregon reported 6,211,171 pounds of fugitive air emissions in error for 1996; the correct amount is 750 pounds. The change for Oregon should be a decrease of 902,800 pounds or -3.7%.



A total of 38 states and territories reported net decreases in on- and off-site releases since 1995. The largest decrease was in Texas, 34.5 million pounds less in 1996 than in 1995 (an 11.4% reduction). Alabama was the only other state with more than a 10-million-pound decrease, with 11.6 million pounds (10.2%). Other states ranking in the top five for largest decreases were Illinois (8.6 million pounds, or 7.4%), Michigan (7.2 million pounds, also 7.4%), and Tennessee (7.0 million pounds, or 6.4%). As discussed in Chapter 2, Texas also ranked first for total on- and off-site releases in 1996.

Seventeen states reported increases in on- and off-site releases from 1995 to 1996. They were led by Arizona, with releases 11.9 million pounds greater in 1996 than in 1995, an increase of one third (33.1%). Louisiana had the second largest increase, 8.0 million pounds (4.5% increase).

Since 1988, 48 states and territories have reported decreasing on- and off-site releases of the 1988-1996 “core” chemicals. Table 3-4 presents on- and off-site releases for states and territories for 1988 and 1994-1996.

Texas had the largest decrease in releases for 1988-1996, reporting 131.1 million pounds less in 1996 than in 1988 (a 41.2% reduction). Louisiana was second with a decrease of 121.1 million pounds (48.3%). Indiana ranked third (93.1 million pounds, a 50.5% decrease) and Ohio fourth (86.9 million pounds, or 43.0%). In fifth place, California had a decrease of 78.3 million pounds (71.7%).

States with increases for 1988 to 1996 were led by Montana, with an 11.6-million-pound increase, or 32.5%, and Idaho, with a 3.4-million-pound increase, or 46.3%.

One facility in American Samoa reported during this time period, but only for ammonia, which is excluded from 1988-1996 comparisons because of changes in the reporting definition, as described

above. No reports were received from the Northern Mariana Islands for any year 1988-1996.

TRI Data by Chemical for 1995-1996 and for 1988, 1994-1996

From 1995 to 1996, the chemical with the largest decrease (in pounds) in on- and off-site releases was toluene, with 147.3 million pounds in 1995 and 127.4 million pounds in 1996. This 20.0-million-pound decrease represents a percentage change of 13.6%. The second-largest reported decrease occurred for 1,1,1-trichloroethane (TCA), an ozone depleter, which decreased from 23.3 million pounds to 8.8 million pounds, or 62.0%. Production of TCA was banned effective January 1, 1996, along with many other ozone depleters.

Ranking third for 1995-1996 decreases was xylene, decreasing from 97.8 million pounds to 83.4 million pounds, or 14.7%. Hydrochloric acid was fourth, with 79.6 million pounds in 1995 and 65.6 million pounds in 1996, a reduction of 17.5%. (This represents reporting under a consistent reporting definition for hydrochloric acid, revised with the 1995 reporting year as detailed above.) Methanol, the chemical with the largest TRI releases, was fifth for decreases, from 255.1 million pounds in 1995 to 241.4 million pounds in 1996, a 5.4% decrease.

From 1995 to 1996, one chemical increased by more than 10 million pounds in on- and off-site releases. Zinc compounds ranked first with 188.8 million pounds of releases in 1995 and 207.0 million pounds in 1996. This represented an increase of 18.2 million pounds, or 9.6%. Manganese was reported as increasing by more than 10

¹ One facility reported 6.2 million pounds fugitive air emissions of manganese in error. Therefore, the 1996 figure for manganese should be 5.2 million pounds.

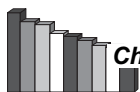


Table 3-4. Change in Total TRI On-site and Off-site Releases, by State, 1988 and 1994-1996

State	Total On- and Off-site Releases				Change 1988-1996	
	1988 Pounds	1994 Pounds	1995 Pounds	1996 Pounds	Pounds	Percent
Alabama	109,689,614	96,649,203	100,495,399	89,468,520	-20,221,094	-18.4
Alaska	3,714,569	1,095,396	2,164,144	1,683,698	-2,030,871	-54.7
American Samoa	0	0	0	0	0	—
Arizona	66,236,322	30,774,930	33,875,255	46,258,274	-19,978,048	-30.2
Arkansas	41,078,310	29,329,078	24,494,563	22,915,254	-18,163,056	-44.2
California	109,318,413	42,361,649	36,146,068	30,988,706	-78,329,707	-71.7
Colorado	15,736,129	4,080,707	3,489,143	3,690,197	-12,045,932	-76.5
Connecticut	37,799,558	11,219,092	8,643,867	6,387,666	-31,411,892	-83.1
Delaware	8,635,152	4,096,180	2,902,307	1,986,174	-6,648,978	-77.0
District of Columbia	500	55,560	56,965	9,460	8,960	1,792.0
Florida	61,526,840	71,434,211	52,110,580	46,914,430	-14,612,410	-23.7
Georgia	86,766,834	43,827,310	39,791,760	38,467,754	-48,299,080	-55.7
Guam	0	0	3,100	3,000	3,000	—
Hawaii	847,805	531,471	562,284	448,355	-399,450	-47.1
Idaho	7,348,539	9,148,741	10,081,185	10,752,902	3,404,363	46.3
Illinois	134,593,529	89,071,039	82,881,648	76,549,404	-58,044,125	-43.1
Indiana	184,554,149	82,653,253	88,801,423	91,418,953	-93,135,196	-50.5
Iowa	43,027,871	22,728,352	21,124,247	17,499,568	-25,528,303	-59.3
Kansas	30,301,296	17,408,245	17,611,936	17,569,997	-12,731,299	-42.0
Kentucky	66,443,750	32,512,132	30,569,980	30,940,570	-35,503,180	-53.4
Louisiana	250,845,496	114,823,665	122,286,440	129,789,110	-121,056,386	-48.3
Maine	15,355,970	6,879,400	6,593,629	5,273,360	-10,082,610	-65.7
Maryland	20,037,261	11,450,775	11,857,911	9,380,959	-10,656,302	-53.2
Massachusetts	31,878,653	9,950,179	8,351,331	8,951,366	-22,927,287	-71.9
Michigan	132,693,208	103,054,956	85,889,256	78,425,842	-54,267,366	-40.9
Minnesota	55,947,771	20,825,514	18,338,087	15,846,403	-40,101,368	-71.7
Mississippi	59,600,174	42,834,108	39,671,257	39,321,344	-20,278,830	-34.0
Missouri	90,703,961	56,771,910	50,552,453	49,769,859	-40,934,102	-45.1
Montana	35,629,903	46,459,564	42,643,724	47,204,182	11,574,279	32.5
Nebraska	16,935,710	13,734,915	11,171,399	8,880,693	-8,055,017	-47.6
Nevada	2,352,366	3,208,708	3,368,990	3,294,005	941,639	40.0
New Hampshire	13,865,650	2,394,720	1,939,853	1,749,609	-12,116,041	-87.4
New Jersey	45,018,440	14,024,665	12,399,476	10,644,699	-34,373,741	-76.4
New Mexico	30,386,119	17,230,438	17,945,764	18,339,076	-12,047,043	-39.6
New York	99,656,137	37,901,900	30,361,469	26,028,249	-73,627,888	-73.9
North Carolina	132,027,139	80,752,697	72,492,552	67,973,108	-64,054,031	-48.5
North Dakota	1,195,389	987,938	1,206,622	772,995	-422,394	-35.3
Ohio	202,151,571	116,095,889	122,236,396	115,227,944	-86,923,627	-43.0
Oklahoma	32,894,841	15,344,174	15,995,029	15,215,680	-17,679,161	-53.7
Oregon *	21,562,415	18,011,164	18,448,805	24,647,444	3,085,029	14.3
Pennsylvania	134,852,351	95,109,558	95,914,412	90,528,698	-44,323,653	-32.9
Puerto Rico	12,828,707	9,693,032	8,840,075	7,467,738	-5,360,969	-41.8
Rhode Island	7,712,568	6,789,350	3,017,334	2,452,269	-5,260,299	-68.2
South Carolina	66,070,190	47,639,871	48,112,037	47,373,602	-18,696,588	-28.3
South Dakota	2,393,242	2,108,149	1,871,676	1,364,448	-1,028,794	-43.0
Tennessee	126,484,405	104,914,555	94,684,331	88,190,525	-38,293,880	-30.3
Texas	318,631,665	199,765,449	205,724,168	187,485,411	-131,146,254	-41.2
Utah	123,835,686	67,175,197	69,143,942	73,876,112	-49,959,574	-40.3
Vermont	1,734,453	631,876	543,553	293,732	-1,440,721	-83.1
Virgin Islands	2,592,912	1,516,211	1,235,660	1,232,271	-1,360,641	-52.5
Virginia	112,328,804	43,828,869	40,612,569	40,555,452	-71,773,352	-63.9
Washington	28,273,090	20,770,473	22,336,381	21,889,503	-6,383,587	-22.6
West Virginia	39,415,713	20,852,490	19,678,685	17,444,543	-21,971,170	-55.7
Wisconsin	60,706,773	39,396,974	32,874,642	31,565,607	-29,141,166	-48.0
Wyoming	16,740,621	880,024	1,144,410	1,356,324	-15,384,297	-91.9
Total	3,352,958,534	1,982,785,906	1,895,290,172	1,823,765,044	-1,529,193,490	-45.6

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 of Form R. **Off-site Releases** from Section 6 (transfers off-site to disposal) of Form R. One facility in

* Oregon reported 6,211,171 pounds of fugitive air emissions in error for 1996; the correct amount is 750 pounds. The change for Oregon should be a decrease of 3,125,392 pounds or -14.5%.



million pounds; 19.8 million pounds to 31.2 million pounds, a difference of 11.4 million pounds or a 57.8% increase, but this includes a large error.¹

Two chemicals had net increases of more than 6 million pounds: Copper, with a 6.3-million-pound increase (or 38.2%) and copper compounds, also a 6.3-million-pound increase (or 12.4%).

At the end of this chapter, Table 3-9 presents TRI data for all chemicals that were reportable (in the same form) for 1988 through 1996 and for which reports were received in at least one year.

From 1988 to 1996, reporting of on- and off-site releases for three chemicals decreased by more than 100 million pounds. Toluene had the largest reduction, as it did for 1995-1996. Reporting of toluene decreased from 311.3 million pounds in 1988 to 127.4 million pounds in 1996, a net decrease of 184.0 million pounds or 59.1%. Total releases of 1,1,1-trichloroethane were 187.1 million pounds in 1988, but decreased to 8.8 million pounds in 1996; again, this reduction of 178.3 million pounds—or 95.3%—indicates the influence on TRI reporting of U.S. actions to reduce ozone depletion. The third chemical with a large decrease was phosphoric acid, with 182.6 million pounds in 1988 and 63.2 million pounds in 1996. This was a reduction of 119.4 million pounds, or 65.4%.

Another four chemicals had decreases in releases of more than 80 million pounds: methanol (decrease of 89.0 million pounds, or 26.9%), dichloromethane (87.0 million pounds, or 61.6%), methyl ethyl ketone (86.7 million pounds, or 59.1%), and xylene (82.9 million pounds, or 49.9%).

Chemicals with large increases from 1988 to 1996 in the amounts reported as released on- and off-site were zinc compounds (189.2 million pounds in 1988 to 207.0 million pounds in 1996, an increase of 9.4%) and copper compounds (42.5 million pounds in 1988 to 57.2 million pounds in 1996, a 34.7% increase). These were the only chemicals with increases of more than 10 million pounds.

Reporting of styrene increased from 36.6 million pounds to 45.7 million pounds, a 9.1-million-pound increase, or 24.8%. Fourth was acetonitrile, for which reporting increased from 19.4 million pounds to 24.4 million pounds, an increase of 5.0 million pounds, or 25.9%. No other TRI chemical had an increase of more than 5 million pounds.

33/50 Program Chemicals, 1988-1996

In 1991, EPA invited industry to participate in a program of voluntary reductions focused on 17 priority TRI chemicals. The program set its goals at a 33% reduction by 1992 and a 50% reduction by 1995 (from TRI's baseline year, 1988) in on-site releases and transfers, as they were reported to TRI at that time. (Off-site transfers to recycling and energy recovery were not required to be reported.) The 33/50 Program met its 50% goal in 1994, one year early. Table 3-5 identifies the 17 chemicals and shows that, from 1988 to 1996, on-site releases and transfers off-site to treatment for these chemicals decreased by 895.5 million pounds, or 59.9%. This includes a reduction in the last year, 1995 to 1996, of 71.7 million pounds, or 10.7% of the 1995 level.

Table 3-6 compares the continued progress in reductions of 33/50 chemicals to changes in amounts reported for other TRI chemicals. From 1988 to 1996, reporting of on-site releases and transfers off-site to treatment and disposal for all TRI chemicals decreased 44.9%, from 4.02 billion pounds to 2.22 billion pounds. For chemicals not included in the 33/50 Program, the decrease was 36.0%, from 2.52 billion pounds to 1.62 billion pounds. This compares to the reduction of 59.9% in 33/50 chemicals, from 1.50 billion pounds to 600.6 million pounds. Even more striking is the comparison for 1995 to 1996, when TRI chemicals not included in the 33/50 Program decreased by less than 0.001% compared to the 10.7% reduction reported in 33/50 chemicals.



Table 3-5. Change in Total On- and Off-site Releases and Transfers Off-site to Treatment and Disposal of 33/50 Chemicals, 1988-1996

CAS Number	Chemical	Total On-site Releases and Transfers Off-site to Treatment and Disposal						
		1988 Pounds	1995 Pounds	1996 Pounds	Change 1995-1996		Change 1988-1996	
					Pounds	Percent	Pounds	Percent
108-88-3	Toluene	367,449,485	168,931,167	150,072,438	-18,858,729	-11.2	-217,377,047	-59.2
71-55-6	1,1,1-Trichloroethane	200,865,732	24,530,557	9,863,748	-14,666,809	-59.8	-191,001,984	-95.1
95-47-6	Xylenes	212,866,804	119,377,865	98,446,738	-20,931,127	-17.5	-114,420,066	-53.8
78-93-3	Methyl ethyl ketone	171,843,934	77,064,996	65,519,012	-11,545,984	-15.0	-106,324,922	-61.9
75-09-2	Dichloromethane	155,419,301	71,011,461	68,661,243	-2,350,218	-3.3	-86,758,058	-55.8
79-01-6	Trichloroethylene	62,584,822	27,164,039	23,066,035	-4,098,004	-15.1	-39,518,787	-63.1
127-18-4	Tetrachloroethylene	42,451,389	11,918,276	9,370,327	-2,547,949	-21.4	-33,081,062	-77.9
71-43-2	Benzene	36,801,410	11,672,344	10,307,367	-1,364,977	-11.7	-26,494,043	-72.0
108-10-1	Methyl isobutyl ketone	44,964,661	23,989,593	20,642,019	-3,347,574	-14.0	-24,322,642	-54.1
	— Chromium and chromium compounds	71,184,874	51,487,808	49,562,167	-1,925,641	-3.7	-21,622,707	-30.4
67-66-3	Chloroform	29,803,069	12,713,113	11,968,700	-744,413	-5.9	-17,834,369	-59.8
	— Lead and lead compounds	60,879,362	44,679,210	54,922,854	10,243,644	22.9	-5,956,508	-9.8
	— Cyanides	11,990,259	9,650,382	8,167,147	-1,483,235	-15.4	-3,823,112	-31.9
	— Nickel and nickel compounds	19,600,559	14,307,515	16,201,856	1,894,341	13.2	-3,398,703	-17.3
56-23-5	Carbon tetrachloride	5,278,709	1,196,040	2,006,120	810,080	67.7	-3,272,589	-62.0
	— Mercury and mercury compounds	316,652	243,370	58,524	-184,846	-76.0	-258,128	-81.5
	— Cadmium and cadmium compounds	1,827,158	2,378,046	1,772,128	-605,918	-25.5	-55,030	-3.0
	Total for 33/50 Chemicals	1,496,128,180	672,315,782	600,608,423	-71,707,359	-10.7	-895,519,757	-59.9

Note: Does not include transfers off-site for recycling and energy recovery reported for 1995 and 1996.

Waste Management Data, 1991-1995

Quantities of TRI chemicals in production-related waste increased from 18.65 billion pounds in 1991 to 19.01 billion pounds in 1996 for the “core” chemicals that were reportable under the same definitions in years 1991-1996. As shown in Table 3-7, reporting of production-related waste has fluctuated. The 1.9% increase in production-related waste from 1991 to 1996 incorporates both a decrease (of 2.7%) from 1994 to 1995 and an increase (of 1.3%) from 1995 to 1996.

The largest net change since 1991 has occurred in reporting of on-site treatment, an increase of 918.9 million pounds, or 21.1%. The second largest increase was in off-site recycling—419.7 million pounds, or 23.9%. Smaller increases occurred in on-site recycling (44.0 million pounds, or 0.7%) and off-site energy recovery (41.0 million pounds, or 9.2%). At the same time, the quantity released

Table 3-6. Total On-site Releases and Transfers Off-site to Treatment and Disposal of 33/50 Program Chemicals Compared to Other TRI Chemicals, 1988, 1990, 1995, and 1996

Year	All TRI Chemicals (Excluding Additions/Deletions) Pounds	TRI Chemicals Less 33/50 Chemicals Pounds	33/50 Chemicals Only Pounds
1988	4,020,250,532	2,524,122,352	1,496,128,180
1990	3,428,644,482	2,163,382,571	1,265,261,911
1995	2,289,147,796	1,616,832,014	672,315,782
1996	2,216,858,876	1,616,250,453	600,608,423
	Change Percent	Change Percent	Change Percent
1988-1990	-14.7	-14.3	-15.4
1990-1996	-35.3	-25.3	-52.5
1995-1996	-3.2	-0.0	-10.7
1988-1996	-44.9	-36.0	-59.9

Note: Does not include transfers off-site for recycling and energy recovery reported 1991-1996. Also excludes delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, and aluminum oxide, ammonia, sulfuric acid and hydrochloric acid.

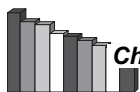


Table 3-7. Quantities of TRI Chemicals in Waste, 1991 and 1994-1996.

Waste Management Activity	1991 Pounds	1994 Pounds	1995 Pounds	1996 Pounds
<u>Other On-site Waste Management</u>				
Recycled On-site	6,219,830,657	6,541,944,020	6,211,046,073	6,263,871,068
Energy Recovery On-site	2,959,059,632	3,147,931,154	2,700,753,684	2,605,551,388
Treated On-site	4,357,169,504	4,574,536,737	4,865,516,687	5,276,108,566
<u>Off-site Waste Management</u>				
Recycled Off-site	1,754,862,848	2,226,854,632	2,242,659,977	2,174,578,749
Energy Recovery Off-site	444,026,952	464,267,304	478,275,356	484,991,635
Treated Off-site	436,541,408	377,227,954	402,823,246	383,613,654
Quantity Released On- and Off-site	2,473,726,376	1,962,899,538	1,867,586,411	1,820,081,145
Total Production-related Waste	18,645,217,377	19,295,661,339	18,768,661,434	19,008,796,205
Non-Production-related Waste	22,371,664	56,355,873	31,751,324	31,674,613
Waste Management Activity	Change 1994-1995 Percent	Change 1995-1996 Percent	Change 1991-1996 Percent	
<u>Other On-site Waste Management</u>				
Recycled On-site	-5.1	0.9	0.7	
Energy Recovery On-site	-14.2	-3.5	-11.9	
Treated On-site	6.4	8.4	21.1	
<u>Off-site Waste Management</u>				
Recycled Off-site	0.7	-3.0	23.9	
Energy Recovery Off-site	3.0	1.4	9.2	
Treated Off-site	6.8	-4.8	-12.1	
Quantity Released On- and Off-site	-4.9	-2.5	-26.4	
Total Production-related Waste	-2.7	1.3	1.9	
Non-Production-related Waste	-43.7	-0.2	41.6	

Note: Does not include delisted chemicals, chemicals added in 1994 and 1995, and ammonia, hydrochloric acid, and sulfuric acid.

on- and off-site decreased by 653.6 million pounds, or 26.4%. Another large reported decrease occurred in on-site energy recovery, a 353.5-million-pound reduction, or 11.9%. The remaining decrease was in off-site treatment, 52.9 million pounds, or 12.1%.

As discussed in Chapter 2, information required by the Pollution Prevention Act (PPA) of 1990 can help facilities and the public assess progress in pollution prevention and in the management of TRI chemicals in waste. The data can be used to analyze trends in total quantities of TRI chemicals in waste to see if facilities are reducing the amount of waste generated. The data also can be used to examine trends in the quantities of TRI chemicals undergoing each waste management method to see whether facilities are making more environmentally

preferable choices as established in the waste management hierarchy.

In terms of the waste management hierarchy, the net increase of 363.6 million pounds in total production-related waste since 1991 reflects a decrease in quantities released, environmentally the least preferred action. The largest increase, however, occurred in on-site treatment, which is the next least preferable option in the hierarchy. Large-scale summary data cannot show whether these changes represent actual shifts in facility management of waste, but over time they can indicate whether national patterns show improvement in waste management options. (As explained in Chapter 2, facilities report each year the actual quantities for the reporting year and the previous year and projected quantities for the two following years.)

**Table 3-8. Actual and Projected Quantities of TRI Chemicals in Waste, 1991 and 1995-1998**

Waste Management Activity	1991		1995		1996	
	Pounds	Percent	Pounds	Percent	Pounds	Percent
<u>On-site Waste Management</u>						
Recycled On-site	6,219,830,657	33.4	6,211,046,073	33.1	6,263,871,068	33.0
Energy Recovery On-site	2,959,059,632	15.9	2,700,753,684	14.4	2,605,551,388	13.7
Treated On-site	4,357,169,504	23.4	4,865,516,687	25.9	5,276,108,566	27.8
<u>Off-site Waste management</u>						
Recycled Off-site	1,754,862,848	9.4	2,242,659,977	11.9	2,174,578,749	11.4
Energy Recovery Off-site	444,026,952	2.4	478,275,356	2.5	484,991,635	2.6
Treated Off-site	436,541,408	2.3	402,823,246	2.1	383,613,654	2.0
Quantity Released On- and Off-site	2,473,726,376	13.3	1,867,586,411	10.0	1,820,081,145	9.6
Total Production-related Waste	18,645,217,377	100.0	18,768,661,434	100.0	19,008,796,205	100.0

Note: Does not include delisted chemicals, chemicals added in 1994 and 1995, and ammonia, hydrochloric acid, and sulfuric acid. Data from Section 8 of Form R. Data for 1991 from 1991 Form R, for 1995 from 1995 Form R, all other years from 1996 Form R.

Table 3-8. Actual and Projected Quantities of TRI Chemicals in Waste, 1991 and 1995-1998, Continued

Waste Management Activity	Projected			
	1997		1998	
	Pounds	Percent	Pounds	Percent
<u>On-site Waste Management</u>				
Recycled On-site	7,155,963,093	36.2	6,531,059,116	34.0
Energy Recovery On-site	2,686,966,274	13.6	2,677,802,762	13.9
Treated On-site	5,260,874,521	26.6	5,409,055,538	28.1
<u>Off-site Waste management</u>				
Recycled Off-site	2,086,134,370	10.6	2,114,848,177	11.0
Energy Recovery Off-site	440,389,476	2.2	437,650,271	2.3
Treated Off-site	379,327,939	1.9	374,810,122	2.0
Quantity Released On- and Off-site	1,763,884,928	8.9	1,670,541,743	8.7
Total Production-related Waste	19,773,540,601	100.0	19,215,767,729	100.0

Note: Does not include delisted chemicals, chemicals added in 1994 and 1995, and ammonia, hydrochloric acid, and sulfuric acid. Data from Section 8 of Form R. Data for 1991 from 1991 Form R, for 1995 from 1995 Form R, all other years from 1996 Form R.

Table 3-8, which shows actual and projected waste management data, further explores these relationships. Percentage distributions given in this table show the increase in on-site treatment from 23.4% of total production-related waste in 1991 to 27.8% in 1996 and the decrease in quantities released from 13.3% of all reported production-related waste in 1991 to 9.6% in 1996. Facility projections indicate that release quantities are expected to decrease to 8.7% of such waste by 1998. Projections for other waste management categories show fluctuation, but little further change overall in the relative roles of the waste management options.

As shown in Table 3-7, non-production related waste (resulting from catastrophic incidents or other one-time events) showed little change from 1995 to 1996, having decreased in 1995 for the first time since PPA reporting began. In previous years, non-production-related waste increased annually, to 56.4 million pounds in 1994, decreasing to 31.8 million pounds in 1995 and 31.7 million pounds in 1996. (Facilities do not project non-production related waste, as these events cannot reasonably be anticipated.)

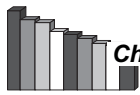


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds	Total On-site Releases Pounds	Transfers Off-site to Disposal Pounds	
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
75-07-0	Acetaldehyde	96	1,637,438	10,938,582	198,485	468,662	16,800	13,259,967	2,463	13,262,430
		95	1,621,964	11,566,763	227,116	605,886	155,360	14,177,089	1,099	14,178,188
		94	1,298,012	10,646,232	286,484	602,167	20,367	12,853,262	992	12,854,254
		88	2,689,238	4,260,011	98,236	2,219,105	194,958	9,461,548	24,930	9,486,478
60-35-5	Acetamide	96	5	14	2	1,169,000	0	1,169,021	0	1,169,021
		95	7	1	0	920,000	0	920,008	0	920,008
		94	8	19	1	466,000	0	466,028	0	466,028
		88	0	0	0	0	0	0	250	250
75-05-8	Acetonitrile	96	601,735	421,386	11,900	22,826,712	48	23,861,781	548,193	24,409,974
		95	697,817	323,025	7,474	27,836,181	12	28,864,509	10,892	28,875,401
		94	817,015	356,571	14,580	17,025,679	3,229	18,217,074	66,885	18,283,959
		88	1,408,588	786,151	42,223	16,739,010	1,790	18,977,762	416,333	19,394,095
107-02-8	* Acrolein	96	928	81,348	550	100,360	0	183,186	0	183,186
		95	10,200	61,102	4	83,465	0	154,771	0	154,771
		94	9,454	55,291	440	107,999	0	173,184	0	173,184
		88	17,352	16,300	0	68,950	500	103,102	0	103,102
79-06-1	Acrylamide	96	2,751	8,949	3,653	5,748,154	149,156	5,912,663	301,575	6,214,238
		95	6,922	12,155	1,929	6,120,154	235	6,141,395	3,083	6,144,478
		94	8,815	7,164	2,677	5,198,814	155	5,217,625	3,891	5,221,516
		88	17,298	8,721	3,124	2,198,000	756	2,227,899	97,582	2,325,481
79-10-7	Acrylic acid	96	193,012	231,271	3,171	5,168,000	67	5,595,521	51,375	5,646,896
		95	273,364	253,846	2,648	7,840,000	47	8,369,905	35,421	8,405,326
		94	271,143	222,599	1,928	6,436,000	113	6,931,783	57,637	6,989,420
		88	585,041	215,005	16,646	22,262,010	15,950	23,094,652	134,139	23,228,791
107-13-1	Acrylonitrile	96	291,729	1,003,720	590	3,595,236	302	4,891,577	6,639	4,898,216
		95	290,055	1,235,391	7,137	5,193,028	618	6,726,229	4,917	6,731,146
		94	346,698	1,424,831	20,439	4,894,487	278	6,686,733	8,738	6,695,471
		88	1,028,194	3,767,967	6,531	4,562,713	2,150	9,367,555	151,450	9,519,005
107-05-1	Allyl chloride	96	56,007	24,141	9	0	0	80,157	0	80,157
		95	22,416	29,630	95	0	41	52,182	13	52,195
		94	149,565	51,919	7	0	2	201,493	37	201,530
		88	93,811	55,558	430	250	200	150,249	747	150,996
7429-90-5	Aluminum (fume or dust)	96	285,959	1,397,308	48,989	0	3,872,907	5,605,163	7,747,964	13,353,127
		95	257,661	1,722,662	36,693	250	1,872,483	3,889,749	6,143,170	10,032,919
		94	393,577	1,544,556	24,574	301	1,143,698	3,106,706	12,554,174	15,660,880
		88	1,226,731	2,455,267	91,518	250	3,177,625	6,951,391	14,368,041	21,319,432
60-09-3	4-Aminoazobenzene	96	0	0	0	203	0	203	0	203
		95	0	0	0	64	0	64	0	64
		94	0	1	0	350	0	351	0	351
		88	0	0	0	537	0	537	0	537
92-67-1	4-Aminobiphenyl	96	0	0	0	2	0	2	0	2
		95	0	0	0	2	0	2	0	2
		94	0	0	0	5	0	5	0	5
		88	0	10	0	4	0	14	0	14

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

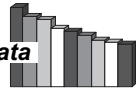


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production- related Waste Pounds
Acetaldehyde	96	178,600	12,168,237	21,603,608	33,950,445	43	144,723	311,747	346,698	0	803,211	47,988,233
	95	97,000	9,238,985	14,494,403	23,830,388	31,823	234,680	1,244,782	487,176	0	1,998,461	40,023,586
	94	142,000	8,137,832	14,761,363	23,041,195	28,005	260,346	432,543	460,301	0	1,181,195	37,029,612
	88	NA	NA	NA	NA	NA	NA	161,761	160,438	0	NA	NA
Acetamide	96	0	98,900	1	98,901	0	0	411	0	0	411	1,269,087
	95	0	1,000	0	1,000	0	0	323	0	0	323	921,088
	94	0	119,600	1	119,601	0	0	846	0	0	846	586,224
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Acetonitrile	96	22,263,727	24,163,715	12,010,669	58,438,111	1,736,000	6,436,847	3,730,563	911,800	0	12,815,210	96,460,892
	95	9,409,962	23,070,787	9,254,608	41,735,357	2,071,155	4,700,840	4,212,558	925,614	0	11,910,167	83,670,046
	94	7,391,440	26,477,192	13,032,752	46,901,384	1,741,949	5,784,394	3,841,992	1,046,688	0	12,415,023	77,427,032
	88	NA	NA	NA	NA	NA	NA	3,772,221	600,450	214,260	NA	NA
Acrolein	96	0	3,641,691	6,126,756	9,768,447	0	27,729	39	0	0	27,768	9,971,496
	95	4,800	3,752,847	5,168,260	8,925,907	0	43,323	11,361	0	0	54,684	9,135,170
	94	6,600	3,192,350	823,436	4,022,386	0	11,893	3,857	0	0	15,750	4,211,138
	88	NA	NA	NA	NA	NA	NA	250	250	0	NA	NA
Acrylamide	96	307	90,400	137,990	228,697	4	22,780	27,346	65,280	0	115,410	6,525,693
	95	4,037	820	314,544	319,401	0	43,729	39,747	176,069	0	259,545	6,715,488
	94	2,449	0	526,024	528,473	0	41,953	50,620	82,086	0	174,659	5,926,711
	88	NA	NA	NA	NA	NA	NA	14,458	13,540	0	NA	NA
Acrylic acid	96	4,427,743	27,444,611	27,724,878	59,597,232	96,828	3,738,960	1,107,155	19,688	0	4,962,631	70,187,482
	95	3,339,863	26,544,419	26,793,759	56,678,041	34,867	5,194,184	426,232	53,283	0	5,708,566	70,615,140
	94	2,734,524	22,104,705	29,453,465	54,292,694	71,070	5,364,877	472,260	37,103	0	5,945,310	67,263,265
	88	NA	NA	NA	NA	NA	NA	108,914	23,262	0	NA	NA
Acrylonitrile	96	12,680,622	3,485,381	10,463,883	26,629,886	517	317,693	1,013,860	88,141	0	1,420,211	32,917,197
	95	12,408,043	3,342,652	10,633,989	26,384,684	69,716	716,574	939,112	143,393	0	1,868,795	35,012,080
	94	11,344,298	3,189,640	12,636,213	27,170,151	100	425,084	835,026	169,644	0	1,429,854	35,250,820
	88	NA	NA	NA	NA	NA	NA	1,388,052	955,739	0	NA	NA
Allyl chloride	96	260,000	2,300,000	504,432	3,064,432	0	360	487,384	11	0	487,755	3,640,974
	95	520,000	186,000	750,979	1,456,979	0	1,506	413,027	11	0	414,544	1,922,258
	94	489,720	180,000	576,888	1,246,608	0	15,149	462,055	14	0	477,218	1,929,965
	88	NA	NA	NA	NA	NA	NA	208,328	14,900	0	NA	NA
Aluminum (fume or dust)	96	15,382,373	0	18,105,328	33,487,701	22,941,895	88,524	152,126	12,754	0	23,195,299	68,452,437
	95	38,589,375	0	15,628,491	54,217,866	17,973,633	164,914	304,707	11,484	0	18,454,738	88,371,586
	94	13,922,952	0	15,344,096	29,267,048	21,676,523	245,466	147,542	9,417	0	22,078,948	68,179,035
	88	NA	NA	NA	NA	NA	NA	2,457,125	15,217	12,756	NA	NA
4-Aminoazobenzene	96	0	0	0	0	0	0	99	0	0	99	302
	95	0	0	3	3	0	0	0	0	0	0	67
	94	0	0	3,000	3,000	0	0	0	0	0	0	3,351
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
4-Aminobiphenyl	96	0	0	91,000	91,000	0	0	103	0	0	103	91,105
	95	0	0	91,000	91,000	0	0	0	0	0	0	91,002
	94	0	0	91,400	91,400	0	0	0	0	0	0	91,405
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Transfers Off-site to Disposal	
			Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
62-53-3	Aniline	96	111,741	133,351	16,217	835,298	781	1,097,388	21,071	1,118,459
		95	115,922	85,545	8,943	1,221,381	4,193	1,435,984	21,546	1,457,530
		94	148,070	153,836	8,835	1,664,033	1,554	1,976,328	126,195	2,102,523
		88	323,900	388,869	16,105	3,582,975	12,822	4,324,671	346,206	4,670,877
90-04-0	o-Anisidine	96	1,443	74	28	0	0	1,545	1	1,546
		95	966	65	74	0	0	1,105	3	1,108
		94	891	63	80	0	30	1,064	1	1,065
		88	501	1,792	285	0	250	2,828	3	2,831
104-94-9	p-Anisidine	96	0	0	0	0	0	0	0	0
		95	0	5	0	0	0	5	0	5
		94	0	10	5	0	0	15	0	15
		88	0	10	250	0	250	510	0	510
120-12-7	Anthracene	96	23,583	40,617	122	0	661	64,983	51,041	116,024
		95	28,596	52,875	4,942	0	939	87,352	48,140	135,492
		94	20,796	48,314	341	0	15,028	84,479	60,186	144,665
		88	144,123	55,700	4,382	0	10,905	215,110	204,665	419,775
7440-36-0	Antimony	96	2,905	7,962	5,388	0	9,480	25,735	217,968	243,703
		95	4,892	24,676	6,592	0	18,786	54,946	85,701	140,647
		94	4,741	18,635	98,466	0	10,226	132,068	104,519	236,587
		88	10,789	59,127	11,114	2,100	903,916	987,046	568,925	1,555,971
—	Antimony compounds	96	32,345	70,385	34,886	13,908	1,974,528	2,126,052	4,201,352	6,327,404
		95	41,687	64,090	29,346	11,332	1,168,668	1,315,123	3,080,779	4,395,902
		94	42,718	51,723	45,687	40,224	1,267,941	1,448,293	4,300,313	5,748,606
		88	58,941	106,587	31,178	9,200	1,935,018	2,140,924	2,184,568	4,325,492
7440-38-2	Arsenic	96	32,882	6,590	421	0	98,758	138,651	47,420	186,071
		95	2,444	4,408	363	0	27,351	34,566	43,208	77,774
		94	9,272	7,937	1,009	0	4,883	23,101	47,647	70,748
		88	2,608	5,079	1,282	0	181,267	190,236	62,664	252,900
—	Arsenic compounds	96	75,960	39,486	4,047	61,280	1,751,028	1,931,801	1,196,069	3,127,870
		95	68,982	55,623	4,936	55,000	1,325,583	1,510,124	1,346,886	2,857,010
		94	11,290	67,572	7,602	60,400	1,954,360	2,101,224	1,702,657	3,803,881
		88	43,461	223,791	6,243	27,400	4,946,184	5,247,079	1,402,790	6,649,869
1332-21-4	Asbestos (friable)	96	1,398	1,362	2	0	479,559	482,321	3,316,112	3,798,433
		95	1,055	2,590	1	0	131,404	135,050	4,101,565	4,236,615
		94	3,080	2,882	260	0	288,146	294,368	4,064,593	4,358,961
		88	11,043	37,453	10,699	0	2,111,880	2,171,075	12,135,707	14,306,782
7440-39-3	Barium	96	9,579	33,400	2,482	0	306,932	352,393	574,589	926,982
		95	35,972	55,114	6,279	0	219,823	317,188	313,310	630,498
		94	76,327	5,845	6,064	0	267,704	355,940	222,758	578,698
		88	174,401	92,410	18,650	0	6,721,686	7,007,147	1,663,835	8,670,982
—	Barium compounds	96	84,002	215,467	89,385	750	1,533,385	1,922,989	4,127,184	6,050,173
		95	60,790	96,792	53,867	0	665,762	877,211	4,481,703	5,358,914
		94	102,967	289,082	53,836	250	641,257	1,087,392	5,066,718	6,154,110
		88	152,892	873,780	104,302	2,773	5,651,655	6,785,402	16,386,093	23,171,495

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

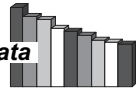


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Aniline	96	8,838,234	6,189,043	3,641,917	18,669,194	0	314,762	381,821	1,113,702	0	1,810,285	21,595,574
	95	7,243,251	7,419,516	3,746,207	18,408,974	0	355,000	230,110	986,966	0	1,572,076	21,486,235
	94	6,149,837	7,272,647	3,009,125	16,431,609	0	1,130,313	592,205	1,542,912	0	3,265,430	21,781,728
	88	NA	NA	NA	NA	NA	NA	468,311	2,106,510	16,050	NA	NA
o-Anisidine	96	0	1,465	3,992	5,457	0	0	0	6,251	0	6,251	13,254
	95	0	143	14,704	14,847	0	0	0	5,100	0	5,100	21,008
	94	0	100	14,166	14,266	0	0	0	2,171	0	2,171	17,497
	88	NA	NA	NA	NA	NA	NA	0	768	0	NA	NA
p-Anisidine	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	5	0	5	18
	94	0	0	96	96	0	0	0	5	0	5	118
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Anthracene	96	214,266	112,111	1,257,051	1,583,428	9,722	210,273	4,782	345	0	225,122	1,916,943
	95	205,705	183,121	1,693,057	2,081,883	16,937	201,453	2,667	654	0	221,711	2,423,973
	94	357,802	134,382	198,373	690,557	38,652	183,999	10,210	630	0	233,491	1,056,011
	88	NA	NA	NA	NA	NA	NA	73,023	20,419	1,250	NA	NA
Antimony	96	3,549,028	109,302	1,220,051	4,878,381	2,939,941	33,085	155,173	22,558	2	3,150,759	8,273,867
	95	3,201,021	0	819,533	4,020,554	5,600,035	1,730	71,999	27,386	5	5,701,155	9,848,835
	94	2,370,185	0	2,409,099	4,779,284	3,103,007	3,165	22,943	55,605	0	3,184,720	8,029,694
	88	NA	NA	NA	NA	NA	NA	22,979	40,228	500	NA	NA
Antimony compounds	96	6,138,043	0	94,818	6,232,861	2,874,865	63,927	747,146	94,398	0	3,780,336	15,280,785
	95	5,371,981	0	79,189	5,451,170	3,247,034	49,141	818,434	85,994	0	4,200,603	13,648,769
	94	5,525,114	0	160,038	5,685,152	3,570,429	31,974	571,795	82,033	951	4,257,182	15,461,361
	88	NA	NA	NA	NA	NA	NA	138,456	67,108	1,450	NA	NA
Arsenic	96	1,191,541	0	70,004	1,261,545	751,303	0	95,712	303	0	847,318	2,276,319
	95	1,072,279	7,700	13,030	1,093,009	189,754	2,650	46,620	68	0	239,092	1,394,987
	94	1,580,322	0	14,150	1,594,472	836,449	0	10,738	181	0	847,368	2,602,086
	88	NA	NA	NA	NA	NA	NA	1,020	1,928	35	NA	NA
Arsenic compounds	96	4,931,812	0	92,028	5,023,840	368,156	326	1,718,792	229	0	2,087,503	9,549,085
	95	2,445,203	0	227,628	2,672,831	423,946	752	1,295,253	248	0	1,720,199	6,740,533
	94	1,806,460	0	263,695	2,070,155	296,314	3	1,044,606	306	0	1,341,229	6,837,981
	88	NA	NA	NA	NA	NA	NA	11,887	3,126	9,573	NA	NA
Asbestos (friable)	96	142,589	0	519,822	662,411	0	0	75	752	0	827	4,348,203
	95	291,000	0	1,548,870	1,839,870	0	0	5	752	0	757	5,355,222
	94	484,280	0	521,499	1,005,779	0	0	260	2	0	262	5,055,780
	88	NA	NA	NA	NA	NA	NA	170,934	68,148	1,010,000	NA	NA
Barium	96	58,305	220,321	75,212	353,838	92,646	3,253	167,142	1,629	0	264,670	1,496,638
	95	14,719	0	43,195	57,914	160,557	509	104,123	4,164	250	269,603	856,700
	94	23,305	0	1,956	25,261	127,098	19	6,050	5,925	0	139,092	719,102
	88	NA	NA	NA	NA	NA	NA	89,045	205,209	10,412	NA	NA
Barium compounds	96	37,172,801	200	6,877,708	44,050,709	2,771,996	224,870	1,592,618	392,151	2,941	4,984,576	54,816,803
	95	26,551,729	200	6,224,067	32,775,996	1,695,448	92,593	1,449,696	386,873	0	3,624,610	43,872,544
	94	15,172,953	0	4,133,323	19,306,276	1,638,023	98,204	1,525,482	207,260	332	3,469,301	29,700,319
	88	NA	NA	NA	NA	NA	NA	828,870	823,073	297,371	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).

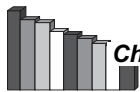


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds				
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds							
98-87-3	Benzal chloride	96	1,158	8	0	0	0	1,166	0	1,166	
		95	1,095	17	0	0	0	1,112	0	1,112	
		94	163	12	0	0	0	175	0	175	
		88	5,252	6	0	0	0	5,258	7,308	12,566	
55-21-0	Benzamide	96	No reports received								
		95	No reports received								
		94	No reports received								
		88	250	250	250	250	0	1,000	750	1,750	
71-43-2	Benzene	96	3,365,712	4,753,759	27,376	312,766	76,157	8,535,770	65,750	8,601,520	
		95	4,020,284	5,259,238	21,301	282,642	18,582	9,602,047	71,391	9,673,438	
		94	5,427,931	4,297,733	22,310	223,103	25,568	9,996,645	203,685	10,200,330	
		88	20,664,086	11,677,898	46,732	825,035	125,228	33,338,979	396,880	33,735,859	
92-87-5	Benzidine	96	No reports received								
		95	No reports received								
		94	250	0	0	0	0	250	0	250	
		88	No reports received								
98-07-7	Benzoic trichloride	96	7,925	66	16	0	0	8,007	0	8,007	
		95	6,446	50	0	0	0	6,496	250	6,746	
		94	2,832	36	0	0	0	2,868	0	2,868	
		88	24,542	421	0	0	0	24,963	9,777	34,740	
98-88-4	Benzoyl chloride	96	16,874	1,829	0	0	0	18,703	2,370	21,073	
		95	14,882	1,867	0	0	0	16,749	1,460	18,209	
		94	11,719	1,972	0	0	0	13,691	250	13,941	
		88	28,295	4,719	0	130,000	250	163,264	2,399	165,663	
94-36-0	Benzoyl peroxide	96	325	1,694	10	0	1,655	3,684	6,352	10,036	
		95	351	1,692	5	0	10,345	12,393	4,760	17,153	
		94	946	1,021	5	0	3,635	5,607	10,936	16,543	
		88	4,063	2,231	0	5,350	36,050	47,694	23,954	71,648	
100-44-7	Benzyl chloride	96	13,695	5,697	324	660	173	20,549	4,824	25,373	
		95	12,700	6,961	40	0	247	19,948	3,870	23,818	
		94	16,856	6,321	49	23	126	23,375	246	23,621	
		88	30,689	12,640	640	0	500	44,469	9,687	54,156	
7440-41-7	Beryllium	96	9	850	31	0	31,240	32,130	1,590	33,720	
		95	3	832	26	0	22,189	23,050	6,943	29,993	
		94	1	898	36	0	22,860	23,795	9,617	33,412	
		88	550	2,213	74	0	37,000	39,837	3,155	42,992	
—	Beryllium compounds	96	30	365	1	0	16,188	16,584	1,440	18,024	
		95	0	360	2	0	23,000	23,362	1,600	24,962	
		94	0	610	2	0	17,000	17,612	2,300	19,912	
		88	1	861	17	0	12,000	12,879	6,900	19,779	
92-52-4	Biphenyl	96	409,862	237,574	9,779	31,558	29,272	718,045	34,962	753,007	
		95	493,906	237,842	6,242	30,337	71,864	840,191	37,988	878,179	
		94	549,141	79,745	3,733	48,302	5,198	686,119	29,055	715,174	
		88	631,591	579,701	88,197	82,760	222,297	1,604,546	227,492	1,832,038	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

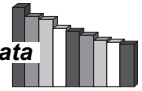


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Energy			Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production-related Waste Pounds
		Recycled On-site Pounds	Recovery On-site Pounds	Treated On-site Pounds								
Benzal chloride	96	0	0	110,000	110,000	0	780,000	180	5	0	780,185	891,348
	95	0	0	2,800	2,800	0	260,000	0	5	0	260,005	263,905
	94	0	0	7,200	7,200	0	54,000	0	0	0	54,000	61,375
	88	NA	NA	NA	NA	NA	NA	95,878	0	0	NA	NA
Benzamide	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Benzene	96	61,704,353	15,645,404	64,991,646	142,341,403	531,327	2,196,809	1,491,143	214,698	6	4,433,983	156,110,718
	95	57,794,042	20,222,877	55,735,616	133,752,535	421,128	1,579,514	1,780,401	218,505	0	3,999,548	147,817,270
	94	47,933,639	23,033,715	32,391,288	103,358,642	555,386	1,657,760	2,146,156	210,855	250	4,570,407	118,003,004
	88	NA	NA	NA	NA	NA	NA	1,892,869	1,165,252	7,430	NA	NA
Benzidine	96	No reports received										
	95	No reports received										
	94	0	0	0	0	0	0	0	0	0	0	16
	88	No reports received										
Benzoic trichloride	96	0	0	150,000	150,000	0	12,000	44	5	0	12,049	170,025
	95	0	0	150,000	150,000	0	0	3,018	5	0	3,023	159,275
	94	0	0	120,000	120,000	0	12	0	0	0	12	122,874
	88	NA	NA	NA	NA	NA	NA	12,795	0	0	NA	NA
Benzoyl chloride	96	0	0	1,998,467	1,998,467	0	138	630,473	6	0	630,617	2,650,142
	95	0	0	1,676,545	1,676,545	0	80	592,289	5	0	592,374	2,309,965
	94	0	0	1,639,368	1,639,368	0	0	496,694	75	0	496,769	2,149,967
	88	NA	NA	NA	NA	NA	NA	358,570	180	0	NA	NA
Benzoyl peroxide	96	11,580	0	36,266	47,846	6,000	3,760	6,842	38,772	0	55,374	113,431
	95	4,600	863	54,214	59,677	10,800	2,671	11,884	32,842	0	58,197	128,634
	94	6,805	0	50,900	57,705	9,000	2,097	24,166	21,318	0	56,581	128,776
	88	NA	NA	NA	NA	NA	NA	38,600	69,946	0	NA	NA
Benzyl chloride	96	19,000	20,600	258,415	298,015	0	559,486	1,608	1,581	0	562,675	882,915
	95	1,000	25,481	256,947	283,428	0	430,300	9,565	1,894	0	441,759	746,173
	94	972	0	210,199	211,171	0	401,125	538	6,347	0	408,010	640,364
	88	NA	NA	NA	NA	NA	NA	89,160	41,553	0	NA	NA
Beryllium	96	38,389	0	921	39,310	93,078	0	3,257	0	0	96,335	166,725
	95	39,689	0	780	40,469	9,618	0	423	0	0	10,041	80,283
	94	39,964	0	780	40,744	13,751	0	19	0	0	13,770	87,812
	88	NA	NA	NA	NA	NA	NA	3	4	0	NA	NA
Beryllium compounds	96	0	0	0	0	18,050	0	1,309	1	0	19,360	36,966
	95	7	0	0	7	24,005	0	990	1	0	24,996	49,559
	94	8	0	0	8	312,617	0	1,060	1	0	313,678	335,897
	88	NA	NA	NA	NA	NA	NA	1,391	3	0	NA	NA
Biphenyl	96	161,010	1,094,809	3,058,232	4,314,051	527,079	243,039	513,754	404,785	0	1,688,657	6,793,939
	95	268,053	1,088,381	963,993	2,320,427	161,181	346,055	205,982	402,012	380	1,115,610	4,314,849
	94	456,329	1,074,140	712,220	2,242,689	161,084	309,207	389,864	296,466	0	1,156,621	4,145,833
	88	NA	NA	NA	NA	NA	NA	252,521	1,446,614	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases	Transfers Off-site to Disposal	
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions						
111-44-4	Bis(2-chloroethyl) ether	96	799	2,119	6	0	0	2,924	16	2,940
		95	373	191	3	0	0	567	0	567
		94	2,835	395	7	0	0	3,237	0	3,237
		88	4,322	600	1,351	0	0	6,273	0	6,273
542-88-1	Bis(chloromethyl) ether	96	0	0	0	0	0	0	0	0
		95	0	0	0	0	0	0	0	0
		94	5	250	0	0	0	255	5	260
		88	1	0	0	0	0	1	0	1
108-60-1	Bis(2-chloro-1-methylethyl) ether	96	520	4,100	44	0	3	4,667	0	4,667
		95	2,710	3,420	0	0	0	6,130	0	6,130
		94	1,800	3,090	3,026	0	1	7,917	0	7,917
		88	7,944	15	30,000	0	0	37,959	0	37,959
75-25-2	Bromoform	96	No reports received							
		95	No reports received							
		94	No reports received							
		88	0	0	8,600	0	0	8,600	0	8,600
74-83-9 *	Bromomethane	96	414,088	1,885,755	7	303	6	2,300,159	0	2,300,159
		95	386,154	2,215,580	14	3,817	0	2,605,565	0	2,605,565
		94	483,863	2,197,112	13	0	0	2,680,988	0	2,680,988
		88	428,777	2,356,018	0	1,546	0	2,786,341	0	2,786,341
106-99-0	1,3-Butadiene	96	1,429,487	1,296,809	11,001	1,000	263	2,738,560	4,790	2,743,350
		95	1,436,010	1,613,728	5,393	0	277	3,055,408	4,892	3,060,300
		94	1,680,098	1,260,880	7,118	0	396	2,948,492	6,846	2,955,338
		88	4,059,260	2,945,362	522,504	1,500	7,817	7,536,443	185,398	7,721,841
141-32-2	Butyl acrylate	96	105,689	108,649	712	0	2,165	217,215	50,540	267,755
		95	117,625	111,143	2,919	0	559	232,246	73,301	305,547
		94	126,139	139,101	218	0	52	265,510	62,877	328,387
		88	165,186	246,676	3,528	0	602	415,992	18,766	434,758
71-36-3	n-Butyl alcohol	96	4,906,789	17,938,341	61,936	2,452,006	6,134	25,365,206	304,582	25,669,788
		95	5,669,583	20,034,108	115,353	2,263,357	4,631	28,087,032	286,766	28,373,798
		94	6,523,855	21,971,251	52,481	1,777,216	3,922	30,328,725	136,044	30,464,769
		88	8,977,430	28,737,791	128,130	3,006,660	175,819	41,025,830	924,519	41,950,349
78-92-2	sec-Butyl alcohol	96	320,953	929,317	6,920	120,169	490	1,377,849	18,769	1,396,618
		95	281,548	616,484	6,782	136,172	2,805	1,043,791	18,376	1,062,167
		94	479,494	506,823	5,902	143,443	5	1,135,667	32,282	1,167,949
		88	400,126	697,037	122,291	0	2,600	1,222,054	21,351	1,243,405
75-65-0	tert-Butyl alcohol	96	494,612	272,590	30,430	1,007,213	758	1,805,603	42,468	1,848,071
		95	508,686	149,132	20,183	1,082,071	751	1,760,823	30,783	1,791,606
		94	648,074	330,360	179,786	691,738	111	1,850,069	70,466	1,920,535
		88	1,207,440	366,697	14,989	674,798	818	2,264,742	56,502	2,321,244
106-88-7	1,2-Butylene oxide	96	5,499	7,198	45	0	0	12,742	12	12,754
		95	3,658	7,425	1	0	0	11,084	5	11,089
		94	5,341	4,702	210	0	0	10,253	0	10,253
		88	34,973	64,958	3,500	0	250	103,681	898	104,579

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

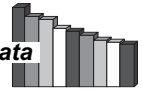


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Bis(2-chloroethyl) ether	96	0	573,000	960,300	1,533,300	180,000	407,512	34,692	2,382	0	624,586	2,160,836
	95	0	302,700	0	302,700	146,118	203,775	86,019	2,874	0	438,786	742,056
	94	0	40,000	105,800	145,800	186,472	162,623	5,045	2,846	0	356,986	506,014
	88	NA	NA	NA	NA	NA	NA	27,265	9,621	0	NA	NA
Bis(chloromethyl) ether	96	0	0	6,500	6,500	0	0	0	0	0	0	6,500
	95	0	0	13,000	13,000	0	0	0	0	0	0	13,000
	94	0	0	13,135	13,135	0	0	0	0	0	0	13,192
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Bis(2-chloro-1- methylethyl) ether	96	13,000,000	0	8,934,000	21,934,000	0	0	0	0	0	0	21,938,700
	95	5,200,000	8,540,000	10,840,000	24,580,000	0	0	0	0	0	0	24,586,100
	94	3,100,000	7,800,000	7,500,000	18,400,000	0	0	0	0	0	0	18,407,900
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Bromoform	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Bromomethane	96	39,200	207,750	454,397	701,347	0	190	0	0	0	190	3,001,785
	95	165,182	101,000	4,876,073	5,142,255	0	380	0	0	0	380	7,720,636
	94	772,910	79,000	108,195	960,105	0	100	750	0	0	850	3,639,105
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
1,3-Butadiene	96	5,953,022	37,128,076	61,528,326	104,609,424	7,241,635	3,409	92,020	670	0	7,337,734	120,423,280
	95	5,513,939	32,353,920	57,784,775	95,652,634	7,011,736	34,521	96,020	705	0	7,142,982	112,314,831
	94	5,600,731	40,521,985	44,835,914	90,958,630	7,328,960	166,970	400,339	537	0	7,896,806	109,670,111
	88	NA	NA	NA	NA	NA	NA	178,855	44,874	1,934	NA	NA
Butyl acrylate	96	93,695	1,902,440	3,155,076	5,151,211	90,081	308,058	59,934	112,122	0	570,195	5,979,902
	95	173,995	4,059,201	4,173,410	8,406,606	207,463	1,143,538	109,335	121,191	0	1,581,527	10,285,070
	94	140,109	3,776,871	1,586,926	5,503,906	107,082	182,031	85,812	107,496	0	482,421	6,308,918
	88	NA	NA	NA	NA	NA	NA	585,394	34,604	525	NA	NA
n-Butyl alcohol	96	7,330,808	22,248,666	39,477,166	69,056,640	2,929,058	7,807,862	1,222,863	1,862,777	11,000	13,833,560	109,092,615
	95	8,438,943	24,665,663	37,948,908	71,053,514	3,280,860	8,620,705	1,553,556	1,789,211	755	15,245,087	114,345,938
	94	26,401,711	16,120,208	26,420,738	68,942,657	2,651,817	7,760,665	2,218,675	1,819,029	297	14,450,483	113,966,981
	88	NA	NA	NA	NA	NA	NA	6,841,449	4,524,613	424,570	NA	NA
sec-Butyl alcohol	96	472,175	20,272,772	2,060,170	22,805,117	143,765	3,500,087	86,670	56,350	0	3,786,872	27,617,067
	95	748,440	13,041,102	2,249,797	16,039,339	24,670	6,221,727	39,689	59,663	0	6,345,749	23,519,105
	94	410,890	10,476,065	1,727,242	12,614,197	44,064	5,307,090	75,307	37,320	0	5,463,781	19,179,277
	88	NA	NA	NA	NA	NA	NA	74,574	41,108	134,802	NA	NA
tert-Butyl alcohol	96	437,181	53,474,091	2,117,278	56,028,550	12,084	8,386,360	184,233	1,151,656	0	9,734,333	68,708,742
	95	466,023	64,310,733	2,447,778	67,224,534	2,256	27,928,818	973,977	837,780	0	29,742,831	98,721,229
	94	473,322	35,610,614	1,648,219	37,732,155	1,356	29,854,068	1,202,299	743,825	0	31,801,548	71,316,735
	88	NA	NA	NA	NA	NA	NA	328,523	1,539,726	110,250	NA	NA
1,2-Butylene oxide	96	0	46,792	350,376	397,168	0	263,538	20,558	0	0	284,096	690,769
	95	0	0	329,270	329,270	990	326,640	93	0	0	327,723	671,351
	94	0	47,000	3,300,131	3,347,131	2,650	364,065	0	10	0	366,725	3,719,712
	88	NA	NA	NA	NA	NA	NA	250	0	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds	Total On-site Releases Pounds	Transfers Off-site to Disposal Pounds	
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
123-72-8	Butyraldehyde	96	128,227	155,403	441	43,344	46	327,461	37	327,498
		95	120,634	170,806	821	149,783	10	442,054	41	442,095
		94	133,044	146,824	875	87,047	0	367,790	1,038	368,828
		88	691,404	1,527,288	3,812	1,997	31	2,224,532	117,741	2,342,273
7440-43-9	Cadmium	96	1,926	2,849	1,010	0	51,420	57,205	39,864	97,069
		95	2,480	9,459	458	0	19,938	32,335	62,120	94,455
		94	2,651	7,412	1,264	0	4,146	15,473	59,259	74,732
		88	9,300	13,130	2,598	0	94,602	119,630	131,879	251,509
—	Cadmium compounds	96	5,964	33,925	3,614	82	502,027	545,612	898,688	1,444,300
		95	7,177	24,692	645	109	358,773	391,396	1,648,173	2,039,569
		94	6,435	34,355	775	170	337,743	379,478	1,864,419	2,243,897
		88	23,099	77,163	1,549	2,409	294,877	399,097	982,168	1,381,265
156-62-7	Calcium cyanamide	96	1	1	0	0	0	2	0	2
		95	5	5	0	0	0	10	0	10
		94	0	5	0	0	0	5	0	5
		88	12,000	600	0	0	66,000	78,600	0	78,600
133-06-2	* Captan	96	519	12,106	5	5	0	12,635	2,191	14,826
		95	520	6,760	5	0	5	7,290	3,868	11,158
		94	1,522	6,971	5	0	5	8,503	1,237	9,740
		88	4,066	10,803	750	5,100	1,000	21,719	12,434	34,153
63-25-2	* Carbaryl	96	1,270	11,662	54	0	2,685	15,671	2,848	18,519
		95	1,022	6,802	10	0	1,060	8,894	26,861	35,755
		94	2,668	4,749	10	0	255	7,682	16,491	24,173
		88	2,515	5,408	877	0	500	9,300	6,198	15,498
75-15-0	Carbon disulfide	96	3,212,583	69,569,637	66,555	3,788	270	72,852,833	19,097	72,871,930
		95	3,457,834	80,662,696	39,864	3,985	265	84,164,644	2,949	84,167,593
		94	3,876,738	80,233,890	56,136	4,305	80	84,171,149	1,672	84,172,821
		88	3,139,255	120,970,649	39,501	13,400	43,436	124,206,241	58,473	124,264,714
56-23-5	Carbon tetrachloride	96	140,533	210,317	215	44,515	0	395,580	9,245	404,825
		95	140,135	254,041	717	53,966	0	448,859	7,735	456,594
		94	235,473	415,625	1,223	12,654	0	664,975	50,791	715,766
		88	1,101,201	2,694,047	15,627	98,050	14,759	3,923,684	49,703	3,973,387
463-58-1	Carbonyl sulfide	96	610,328	19,241,733	0	0	0	19,852,061	0	19,852,061
		95	86,530	17,483,365	0	0	0	17,569,895	0	17,569,895
		94	77,490	17,845,497	0	0	0	17,922,987	0	17,922,987
		88	7,643	25,946,460	0	0	0	25,954,103	0	25,954,103
120-80-9	Catechol	96	2,480	2,826	24,475	0	2,222	32,003	239	32,242
		95	1,328	2,129	24,747	0	3,729	31,933	563	32,496
		94	1,483	1,878	26,585	0	1,332	31,278	1,568	32,846
		88	2,448	1,341	320,546	0	84,332	408,667	89,474	498,141
133-90-4	Chloramben	96	No reports received							
		95	No reports received							
		94	No reports received							
		88	250	1,168	250	0	0	1,668	1,159	2,827

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

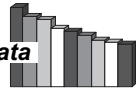


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Butyraldehyde	96	0	2,757,675	1,905,739	4,663,414	3,405	26,894	22,351	258,800	0	311,450	5,333,341
	95	0	2,545,861	1,982,004	4,527,865	1,300	22,070	13,746	155,918	0	193,034	5,161,657
	94	0	520,034	1,561,850	2,081,884	0	17,281	6,555	203,094	0	226,930	2,675,042
	88	NA	NA	NA	NA	NA	NA	6,197	371,633	0	NA	NA
Cadmium	96	504,123	0	67,708	571,831	395,287	0	34,693	570	1	430,551	1,078,869
	95	1,471,697	29,191	91,725	1,592,613	503,545	633	31,250	815	4,610	540,853	2,255,875
	94	935,480	0	73,842	1,009,322	715,739	0	9,628	599	0	725,966	1,885,171
	88	NA	NA	NA	NA	NA	NA	83,296	7,894	2,441	NA	NA
Cadmium compounds	96	7,831,833	0	68,747	7,900,580	710,242	1,613	192,918	2,577	0	907,350	10,221,593
	95	8,221,108	0	86,561	8,307,669	1,292,820	2,233	162,037	3,385	41,925	1,502,400	11,856,105
	94	3,889,693	0	29,448	3,919,141	1,959,902	2,748	160,927	2,421	0	2,125,998	8,282,944
	88	NA	NA	NA	NA	NA	NA	86,534	13,719	500	NA	NA
Calcium cyanamide	96	0	0	0	0	0	0	0	0	0	0	1
	95	0	0	0	0	0	0	0	0	0	0	6
	94	0	0	0	0	0	0	0	0	0	0	5
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Captan	96	4,079	0	9,500	13,579	0	0	2,081	0	0	2,081	28,694
	95	5,070	0	9,834	14,904	0	0	999	3	255	1,257	23,455
	94	10,794	0	9,700	20,494	0	0	2,410	26	0	2,436	29,383
	88	NA	NA	NA	NA	NA	NA	511	250	750	NA	NA
Carbaryl	96	46,121	458,932	437,614	942,667	0	0	67,982	5	0	67,987	984,715
	95	36,618	0	467,593	504,211	0	0	6,385	5	0	6,390	544,793
	94	24,234	0	420,867	445,101	0	0	5,222	1	0	5,223	470,214
	88	NA	NA	NA	NA	NA	NA	27,582	171	0	NA	NA
Carbon disulfide	96	19,122,418	6,776,413	23,478,038	49,376,869	395	297,411	24,954	292,225	0	614,985	123,183,876
	95	20,874,450	5,775,132	16,592,458	43,242,040	250	372,531	108,021	351,949	0	832,751	128,714,727
	94	22,399,099	2,787,953	18,673,450	43,860,502	426	205,993	31,113	359,388	0	596,920	128,715,577
	88	NA	NA	NA	NA	NA	NA	154,315	159,369	0	NA	NA
Carbon tetrachloride	96	2,073,632	1,050,017	41,816,616	44,940,265	128,727	26,337	1,600,815	480	0	1,756,359	45,991,160
	95	1,677,422	317,149	52,783,870	54,778,441	364,083	50,065	738,973	473	0	1,153,594	56,361,154
	94	1,835,424	138,871	14,290,324	16,264,619	850,623	17,314	1,172,832	574	0	2,041,343	18,942,128
	88	NA	NA	NA	NA	NA	NA	1,300,058	5,014	250	NA	NA
Carbonyl sulfide	96	0	1,805,617	14,041,155	15,846,772	0	0	5,900	0	0	5,900	35,818,382
	95	0	1,508,252	14,242,854	15,751,106	0	0	16,000	0	0	16,000	34,179,368
	94	0	749,467	13,410,115	14,159,582	0	0	18,000	0	0	18,000	32,103,297
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Catechol	96	0	10,927,849	3,729,029	14,656,878	0	32,112	19,160	34,644	0	85,916	14,752,655
	95	0	7,329,290	1,481,057	8,810,347	0	94,900	961	92,901	0	188,762	9,027,783
	94	2,040	5,614,396	1,571,419	7,187,855	0	9,318	2,805	83,490	0	95,613	7,305,016
	88	NA	NA	NA	NA	NA	NA	14,744	245,399	250	NA	NA
Chloramben	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases					Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds			
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
57-74-9	Chlordane	96	660	0	95	0	0	755	0	755
		95	823	0	22	0	0	845	0	845
		94	1,300	0	13	0	0	1,313	0	1,313
		88	2,695	3	4	4,262	0	6,964	0	6,964
7782-50-5	* Chlorine	96	1,119,170	65,308,331	465,787	74,196	312,638	67,280,122	21,045	67,301,167
		95	1,049,905	64,719,424	432,218	74,124	14,213	66,289,884	40,771	66,330,655
		94	1,297,509	58,578,266	502,396	74,311	63,097	60,515,579	15,133	60,530,712
		88	4,722,032	128,363,569	6,622,187	107,624	430,047	140,245,459	1,003,531	141,248,990
10049-04-4	* Chlorine dioxide	96	20,395	1,189,230	0	0	0	1,209,625	0	1,209,625
		95	16,727	1,286,799	5	0	0	1,303,531	0	1,303,531
		94	16,914	1,484,137	0	0	0	1,501,051	2	1,501,053
		88	1,277,556	10,973,494	2,350	0	41,000	12,294,400	41,750	12,336,150
79-11-8	Chloroacetic acid	96	5,620	812	2	0	250	6,684	255	6,939
		95	5,619	855	11,121	0	0	17,595	600	18,195
		94	5,983	710	10,178	0	950	17,821	603	18,424
		88	21,660	5,159	850	10	0	27,679	2,506	30,185
108-90-7	Chlorobenzene	96	775,735	402,361	2,086	68,701	5	1,248,888	106,844	1,355,732
		95	553,142	525,711	1,850	27,405	5	1,108,113	92,582	1,200,695
		94	746,012	702,475	2,206	72,000	16	1,522,709	94,624	1,617,333
		88	2,032,791	2,343,096	98,354	84,457	4,127	4,562,825	117,624	4,680,449
75-00-3	Chloroethane	96	1,130,568	1,422,692	285	92	0	2,553,637	0	2,553,637
		95	1,221,405	1,536,944	2,320	0	116	2,760,785	0	2,760,785
		94	1,285,967	1,641,444	767	110	147	2,928,435	8	2,928,443
		88	2,148,305	2,738,910	27,448	1,510	1	4,916,174	32,260	4,948,434
67-66-3	Chloroform	96	3,086,308	6,235,110	340,396	45,387	32,709	9,739,910	38,868	9,778,778
		95	3,333,191	6,942,723	330,352	33,276	4,297	10,643,839	6,636	10,650,475
		94	3,493,811	7,548,078	376,502	80,002	11,779	11,510,172	68,688	11,578,860
		88	7,790,990	18,197,619	1,114,965	36,000	68,647	27,208,221	143,124	27,351,345
74-87-3	Chloromethane	96	772,463	3,685,312	803	99,705	80	4,558,363	392	4,558,755
		95	849,575	3,534,174	57,425	50,198	35	4,491,407	1,557	4,492,964
		94	1,002,143	3,917,650	59,653	50,707	15	5,030,168	1,565	5,031,733
		88	3,515,698	8,051,949	115,985	165,250	0	11,848,882	59,140	11,908,022
107-30-2	Chloromethyl methyl ether	96	199	2,642	7	0	0	2,848	70	2,918
		95	11	2,854	10	0	0	2,875	70	2,945
		94	11	2,728	5	0	0	2,744	70	2,814
		88	33	3,000	0	0	0	3,033	0	3,033
—	Chlorophenols	96	1,851	2,924	13	113,554	0	118,342	2,290	120,632
		95	1,960	3,037	30	105,687	0	110,714	940	111,654
		94	1,991	6,630	39	94,236	1	102,897	383	103,280
		88	2,154	419	272	71,554	0	74,399	2	74,401
126-99-8	Chloroprene	96	112,905	913,190	5	120,000	8,640	1,154,740	8,640	1,163,380
		95	109,218	874,670	0	60,000	5,104	1,048,992	7,102	1,056,094
		94	125,385	968,771	2	59,600	3,997	1,157,755	6,391	1,164,146
		88	234,228	1,713,780	287	68,792	0	2,017,087	0	2,017,087

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide



Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Chlordane	96	0	0	4,150	4,150	0	0	1	83	0	84	4,989
	95	0	0	5,150	5,150	0	0	0	95	0	95	6,090
	94	0	0	5,200	5,200	0	0	6	100	0	106	6,610
	88	NA	NA	NA	NA	NA	NA	74,170	23	6,639	NA	NA
Chlorine	96	82,275,726	4,000	259,753,478	342,033,204	751,987	10,348	1,011,185	567,079	0	2,340,599	411,400,655
	95	84,997,609	499	220,213,392	305,211,500	1,791,982	1,196	303,388	444,899	0	2,541,465	374,496,229
	94	81,815,961	1,303,020	220,121,041	303,240,022	2,832,926	4,310	343,537	838,752	5,005	4,024,530	367,708,233
	88	NA	NA	NA	NA	NA	NA	2,995,507	3,100,697	0	NA	NA
Chlorine dioxide	96	2,242,600	0	50,907,468	53,150,068	0	0	0	16,000	0	16,000	54,522,783
	95	2,446,060	0	40,375,897	42,821,957	0	0	0	250	0	250	44,147,268
	94	2,388,780	0	69,813,113	72,201,893	0	0	0	296	0	296	73,723,716
	88	NA	NA	NA	NA	NA	NA	0	2,650	0	NA	NA
Chloroacetic acid	96	42,416	0	1,636,910	1,679,326	0	0	251	1,250	0	1,501	1,686,206
	95	25,013	0	1,331,388	1,356,401	0	0	2,654	500	0	3,154	1,376,839
	94	38,482	0	1,229,602	1,268,084	0	250	5,406	1,015	0	6,671	1,289,574
	88	NA	NA	NA	NA	NA	NA	6,900	10,727	0	NA	NA
Chlorobenzene	96	5,742,719	2,870,143	11,527,191	20,140,053	1,605,990	589,367	2,803,074	8,139	21,747	5,028,317	26,343,646
	95	9,123,869	1,978,757	11,231,684	22,334,310	1,017,180	1,367,467	1,726,505	2,169	0	4,113,321	27,410,267
	94	15,489,324	1,533,627	7,863,711	24,886,662	1,084,976	625,394	1,119,835	1,922	0	2,832,127	29,209,528
	88	NA	NA	NA	NA	NA	NA	4,925,431	578,774	0	NA	NA
Chloroethane	96	3,909,753	12,244,253	28,988,635	45,142,641	155,710	39,841	490,834	762	1,926	689,073	48,384,121
	95	2,321,094	13,500,359	28,073,797	43,895,250	156,726	46,034	490,733	760	0	694,253	47,348,783
	94	1,388,619	20,215,866	26,027,122	47,631,607	174,502	59,459	360,204	760	0	594,925	51,119,585
	88	NA	NA	NA	NA	NA	NA	431,010	180	0	NA	NA
Chloroform	96	6,039,162	8,887,218	13,453,310	28,379,690	668,897	189,452	1,860,389	329,533	0	3,048,271	41,656,082
	95	5,138,816	17,187,219	17,351,138	39,677,173	175,944	103,428	1,644,237	418,401	0	2,342,010	52,626,590
	94	5,492,781	10,972,419	19,871,561	36,336,761	351,182	101,775	1,969,037	437,920	0	2,859,914	50,668,511
	88	NA	NA	NA	NA	NA	NA	1,204,786	1,226,573	20,365	NA	NA
Chloromethane	96	2,999,190	4,492,933	12,991,668	20,483,791	0	6,223	253,067	9,758	0	269,048	25,480,331
	95	2,803,788	4,421,896	14,313,676	21,539,360	0	4,233	238,170	2,980	0	245,383	26,267,441
	94	2,333,832	3,794,405	12,100,977	18,229,214	0	7,239	358,585	2,242	0	368,066	23,631,941
	88	NA	NA	NA	NA	NA	NA	45,292	54,223	0	NA	NA
Chloromethyl methyl ether	96	0	0	8,220	8,220	0	0	0	0	0	0	11,137
	95	0	0	15,900	15,900	0	0	0	0	0	0	18,809
	94	0	0	14,600	14,600	0	0	0	0	0	0	17,406
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Chlorophenols	96	2,486,786	0	207,215	2,694,001	0	670	8,698	0	0	9,368	2,822,844
	95	2,919,075	0	237,484	3,156,559	0	6,380	25,112	1,350	0	32,842	3,299,018
	94	2,822,928	0	230,113	3,053,041	17,232	0	26,914	1,494	0	45,640	3,221,039
	88	NA	NA	NA	NA	NA	NA	1,970,910	2,650	0	NA	NA
Chloroprene	96	0	944,336	7,250,217	8,194,553	281,520	14,010	252,891	16,109	0	564,530	9,912,418
	95	0	26,280	4,233,572	4,259,852	481,972	9,105	126,850	11,571	0	629,498	5,939,325
	94	0	26,064	4,137,812	4,163,876	1,155,305	96,000	50,800	16,571	0	1,318,676	6,640,834
	88	NA	NA	NA	NA	NA	NA	18,749	62,000	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).

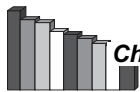


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds				
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds							
1897-45-6	* Chlorothalonil	96	12,307	3,423	22	0	1,670	17,422	253,395	270,817	
		95	4,710	2,730	35	0	750	8,225	97,420	105,645	
		94	1,472	2,668	21	0	250	4,411	227,473	231,884	
		88	19,455	9,021	250	0	0	28,726	396,274	425,000	
7440-47-3	Chromium	96	353,248	135,244	574,092	9	765,351	1,827,944	4,985,681	6,813,625	
		95	266,162	347,460	17,731	33	1,114,860	1,746,246	4,790,613	6,536,859	
		94	476,887	166,222	20,745	48	1,174,905	1,838,807	4,955,330	6,794,137	
		88	369,217	195,579	75,192	2,249	9,280,857	9,923,094	10,442,555	20,365,649	
—	Chromium compounds	96	168,943	237,261	137,319	37,422	26,134,671	26,715,616	11,759,262	38,474,878	
		95	175,001	405,230	137,235	60,747	21,445,118	22,223,331	16,823,294	39,046,625	
		94	174,954	367,968	159,649	38,061	21,428,384	22,169,016	11,131,091	33,300,107	
		88	257,115	505,795	326,027	52,653	30,934,406	32,075,996	11,539,547	43,615,543	
569-64-2	C.I. Basic Green 4	96	0	5	0	0	0	5	0	5	
		95	0	5	0	0	0	5	0	5	
		94	0	10	0	0	0	10	0	10	
		88	500	250	0	0	0	750	250	1,000	
989-38-8	C.I. Basic Red 1	96	0	0	0	0	0	0	668	668	
		95	0	0	0	0	0	0	668	668	
		94	4	4	0	0	0	8	668	676	
		88	No reports received								
16071-86-6	C.I. Direct Brown 95	96	No reports received								
		95	0	0	0	0	0	0	0	0	
		94	No reports received								
		88	No reports received								
2832-40-8	C.I. Disperse Yellow 3	96	392	60	28	0	0	480	594	1,074	
		95	450	0	27	0	0	477	1,061	1,538	
		94	238	0	26	0	0	264	2,597	2,861	
		88	398	0	302	0	0	700	899	1,599	
81-88-9	C.I. Food Red 15	96	0	0	0	0	0	0	0	0	
		95	0	0	0	0	0	0	0	0	
		94	0	0	0	0	0	0	0	0	
		88	250	0	0	0	0	250	0	250	
3118-97-6	C.I. Solvent Orange 7	96	No reports received								
		95	No reports received								
		94	0	0	0	0	0	0	350	350	
		88	No reports received								
97-56-3	C.I. Solvent Yellow 3	96	No reports received								
		95	0	0	0	0	0	0	0	0	
		94	No reports received								
		88	250	0	0	0	0	250	0	250	
842-07-9	C.I. Solvent Yellow 14	96	No reports received								
		95	No reports received								
		94	No reports received								
		88	0	0	0	0	0	0	0	0	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

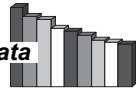


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production-related Waste Pounds
Chlorothalonil	96	5,208	0	25,902	31,110	148	0	274,590	1,459	0	276,197	568,381
	95	5,339	0	24,716	30,055	0	2,564	141,072	1,264	0	144,900	274,594
	94	5,243	0	4,823	10,066	0	15	7,551	505	0	8,071	248,875
	88	NA	NA	NA	NA	NA	NA	3,660	541	0	NA	NA
Chromium	96	30,287,624	34,195	317,369	30,639,188	82,655,975	1,109	643,205	49,915	5,441	83,355,645	124,633,699
	95	29,870,462	9,781,278	398,204	40,049,944	95,324,323	131,060	2,323,968	50,626	5	97,829,982	145,601,783
	94	39,401,588	59,818	585,749	40,047,155	109,947,008	26,534	493,291	73,730	88,015	110,628,578	160,288,818
	88	NA	NA	NA	NA	NA	NA	1,218,879	414,983	816,778	NA	NA
Chromium compounds	96	25,668,394	27,254	5,417,810	31,113,458	31,270,685	55,259	3,327,978	247,125	0	34,901,047	105,639,489
	95	36,671,498	44,280	94,214,040	130,929,818	37,281,624	70,227	3,188,159	308,616	32,950	40,881,576	212,626,985
	94	36,200,636	65,702	78,535,679	114,802,017	39,195,007	67,481	4,870,079	356,674	0	44,489,241	192,739,335
	88	NA	NA	NA	NA	NA	NA	2,660,432	1,678,116	414,494	NA	NA
C.I. Basic Green 4	96	0	0	100	100	0	0	11,499	0	0	11,499	609
	95	0	0	110	110	0	0	499	0	0	499	619
	94	0	0	0	0	0	0	499	0	0	499	509
	88	NA	NA	NA	NA	NA	NA	0	1,320	0	NA	NA
C.I. Basic Red 1	96	0	0	0	0	0	40	248	15	0	303	971
	95	0	0	0	0	0	250	250	250	0	750	1,011
	94	0	0	0	0	0	114	132	274	0	520	960
	88	No reports received										
C.I. Direct Brown 95	96	No reports received										
	95	0	0	0	0	0	0	0	5	0	5	0
	94	No reports received										
	88	No reports received										
C.I. Disperse Yellow 3	96	0	0	0	0	0	0	0	5,891	0	5,891	6,960
	95	0	0	1,061	1,061	0	0	0	5,194	0	5,194	7,660
	94	0	0	2,496	2,496	0	0	0	2,488	0	2,488	7,840
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
C.I. Food Red 15	96	0	0	0	0	0	0	0	5	0	5	0
	95	0	0	0	0	0	0	0	5	0	5	0
	94	0	0	0	0	0	0	0	0	0	0	0
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
C.I. Solvent Orange 7	96	No reports received										
	95	No reports received										
	94	450	0	0	450	0	0	0	284	0	284	1,084
	88	No reports received										
C.I. Solvent Yellow 3	96	No reports received										
	95	0	0	0	0	0	0	0	0	0	0	0
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
C.I. Solvent Yellow 14	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Transfers Off-site to Disposal	
			Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
7440-48-4	Cobalt	96	19,372	13,129	4,330	0	66,736	103,567	139,708	243,275
		95	13,903	21,333	17,295	0	48,334	100,865	189,432	290,297
		94	21,931	23,629	6,824	0	35,030	87,414	154,962	242,376
		88	22,439	21,566	16,744	0	213,204	273,953	226,686	500,639
—	Cobalt compounds	96	3,994	26,931	27,960	15,917	220,634	295,436	559,381	854,817
		95	5,948	22,388	70,392	22,657	180,417	301,802	265,072	566,874
		94	10,723	22,295	106,479	1,750	133,602	274,849	411,596	686,445
		88	11,081	45,329	63,662	18,500	38,960	177,532	253,578	431,110
7440-50-8	* Copper	96	4,316,839	707,505	46,778	41,032	3,353,008	8,465,162	14,493,597	22,958,759
		95	459,847	742,889	43,233	29,787	1,672,083	2,947,839	13,662,926	16,610,765
		94	408,423	789,551	55,980	19,944	996,963	2,270,861	12,886,324	15,157,185
		88	320,707	1,204,354	115,631	15,651	10,466,175	12,122,518	15,152,628	27,275,146
—	Copper compounds	96	1,198,319	666,754	62,013	313,376	48,067,716	50,308,178	6,935,031	57,243,209
		95	1,498,263	1,185,959	84,849	264,852	40,657,368	43,691,291	7,246,434	50,937,725
		94	3,240,343	2,132,773	85,954	214,308	41,698,098	47,371,476	9,993,952	57,365,428
		88	2,336,180	821,017	185,292	165,957	29,683,607	33,192,053	9,319,212	42,511,265
120-71-8	p-Cresidine	96	1,665	1,800	0	0	0	3,465	0	3,465
		95	1,706	2,900	0	0	0	4,606	2,200	6,806
		94	881	130	81	0	50	1,142	3,000	4,142
		88	5,400	1,680	250	0	750	8,080	4,700	12,780
108-39-4	* m-Cresol	96	20,830	20,394	1,633	520,000	0	562,857	1,473	564,330
		95	28,042	19,958	1,675	680,000	0	729,675	3,218	732,893
		94	35,097	18,973	4,072	610,000	0	668,142	15,923	684,065
		88	5,860	12,572	283	0	455	19,170	13,503	32,673
95-48-7	o-Cresol	96	1,998	6,293	845	440,000	0	449,136	4,257	453,393
		95	4,077	8,348	82	590,000	0	602,507	5,257	607,764
		94	12,085	3,359	1,990	660,000	0	677,434	8,335	685,769
		88	45,557	44,236	448	0	1,667	91,908	12,458	104,366
106-44-5	p-Cresol	96	24,607	17,189	825	262,500	361	305,482	13,462	318,944
		95	26,764	18,669	1,066	342,500	0	388,999	3,168	392,167
		94	34,350	31,783	2,020	301,900	0	370,053	10,617	380,670
		88	6,286	634,417	1,143	152,000	62,291	856,137	643	856,780
1319-77-3	Cresol (mixed isomers)	96	284,120	1,398,346	10,114	711,056	1,969	2,405,605	20,245	2,425,850
		95	339,937	1,266,623	15,011	648,882	2,350	2,272,803	47,059	2,319,862
		94	359,443	1,447,089	11,607	808,900	4,828	2,631,867	71,541	2,703,408
		88	400,427	378,678	6,764	1,804,060	4,512	2,594,441	483,488	3,077,929
98-82-8	Cumene	96	565,522	1,008,756	1,042	3,267	6,850	1,585,437	5,006	1,590,443
		95	710,170	1,158,941	1,490	9,403	1,102	1,881,106	70,457	1,951,563
		94	835,164	1,236,577	6,369	8,940	942	2,087,992	25,761	2,113,753
		88	2,160,167	3,079,791	3,201	30,165	8,591	5,281,915	83,287	5,365,202
80-15-9	Cumene hydroperoxide	96	35,755	11,241	26	180,169	6,300	233,491	11,147	244,638
		95	51,819	21,079	68	280,000	3,400	356,366	68,728	425,094
		94	78,772	57,806	176	280,000	2,500	419,254	71,597	490,851
		88	178,787	13,736	1,784	371,000	250	565,557	22,944	588,501

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

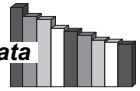


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Cobalt	96	3,778,210	0	147,007	3,925,217	6,699,148	0	21,256	6,533	47,000	6,773,937	11,312,611
	95	3,573,917	0	379,265	3,953,182	9,962,672	10	21,575	17,095	0	10,001,352	15,934,148
	94	3,129,055	0	165,446	3,294,501	9,140,347	5	848,470	21,855	0	10,010,677	15,867,916
	88	NA	NA	NA	NA	NA	NA	27,673	8,843	27,823	NA	NA
Cobalt compounds	96	215,762	0	1,107,761	1,323,523	1,940,354	2,020	105,173	7,433	0	2,054,980	4,221,216
	95	222,882	0	1,394,877	1,617,759	1,533,439	1,854	83,042	8,063	0	1,626,398	3,800,271
	94	524,605	0	713,923	1,238,528	1,472,975	1,893	112,921	8,446	5,949	1,602,184	3,493,602
	88	NA	NA	NA	NA	NA	NA	88,079	28,369	263	NA	NA
Copper	96	737,221,219	123,097	41,621,864	778,966,180	539,187,912	63,810	1,224,559	370,317	1,004	540,847,602	1,353,885,321
	95	637,552,730	506	42,497,780	680,051,016	535,501,327	45,426	1,155,022	197,633	500	536,899,908	1,241,896,665
	94	621,435,903	1,000	35,342,238	656,779,141	549,481,338	38,402	1,141,554	141,219	8,274	550,810,787	1,219,890,870
	88	NA	NA	NA	NA	NA	NA	4,066,439	313,756	1,568,263	NA	NA
Copper compounds	96	189,656,521	59	5,817,034	195,473,614	194,626,529	19,948	1,884,588	156,261	17,159	196,704,485	456,506,872
	95	215,008,080	0	60,463,597	275,471,677	185,233,297	26,764	2,020,510	164,003	505	187,445,079	515,268,856
	94	259,442,385	0	164,445,063	423,887,448	150,229,819	64,615	2,149,528	148,183	199,764	152,791,909	655,687,102
	88	NA	NA	NA	NA	NA	NA	5,931,794	437,156	1,670,071	NA	NA
p-Cresidine	96	0	0	0	0	0	0	1,600	38,697	0	40,297	44,162
	95	0	0	0	0	0	0	13,000	41,611	0	54,611	58,417
	94	0	0	1,063	1,063	0	0	2,200	28,896	0	31,096	36,114
	88	NA	NA	NA	NA	NA	NA	0	37,750	0	NA	NA
m-Cresol	96	2,104,414	789,240	229,581	3,123,235	820,576	38,925	24,217	3,261	0	886,979	4,578,595
	95	2,309,373	615,425	329,024	3,253,822	1,503,813	17,854	81,671	7,837	0	1,611,175	5,600,600
	94	2,204,055	578,235	250,558	3,032,848	684,191	21,207	48,433	14,624	0	768,455	4,441,965
	88	NA	NA	NA	NA	NA	NA	125,737	7,165	0	NA	NA
o-Cresol	96	97,068	299,260	196,840	593,168	8	53,235	12,421	41,234	0	106,898	1,152,884
	95	171,098	304,801	184,032	659,931	3,888	320	34,578	85,123	0	123,909	1,392,082
	94	178,409	486,957	170,623	835,989	4,178	11,520	27,062	99,457	0	142,217	1,663,266
	88	NA	NA	NA	NA	NA	NA	75,565	40,703	2,500	NA	NA
p-Cresol	96	90,880	430,589	468,502	989,971	500,574	115,535	20,308	388,390	0	1,024,807	2,335,909
	95	137,136	454,288	226,234	817,658	900,001	58,381	54,724	931,786	0	1,944,892	3,154,982
	94	169,555	518,695	170,207	858,457	450,009	44,592	32,831	1,723,189	0	2,250,621	3,487,312
	88	NA	NA	NA	NA	NA	NA	26,377	744,568	250	NA	NA
Cresol (mixed isomers)	96	502,345	4,573,476	14,730,070	19,805,891	388,055	558,963	274,727	61,307	0	1,283,052	23,349,769
	95	1,052,270	5,045,270	8,558,967	14,656,507	187,657	597,791	1,082,227	79,401	0	1,947,076	18,828,100
	94	1,680,845	4,071,623	7,757,585	13,510,053	337,998	577,126	257,485	62,226	0	1,234,835	17,325,871
	88	NA	NA	NA	NA	NA	NA	847,303	358,242	8,738	NA	NA
Cumene	96	16,061,751	9,440,085	38,743,335	64,245,171	153,825	1,191,125	88,661	29,547	0	1,463,158	67,186,433
	95	17,285,493	6,815,013	6,951,773	31,052,279	57,755	1,381,089	146,451	26,657	0	1,611,952	34,711,941
	94	14,355,165	5,680,434	7,480,372	27,515,971	96,410	627,986	186,863	24,194	0	935,453	30,693,309
	88	NA	NA	NA	NA	NA	NA	126,382	203,279	0	NA	NA
Cumene hydroperoxide	96	0	0	543,481	543,481	0	12	1,937	175,887	0	177,836	1,016,533
	95	0	0	482,755	482,755	0	6	4,062	17,343	0	21,411	938,956
	94	0	0	796,774	796,774	0	738	2,353	768	0	3,859	1,298,297
	88	NA	NA	NA	NA	NA	NA	2,572	5,250	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Transfers Off-site to Disposal	
			Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
135-20-6	Cupferron	96	0	0	0	0	0	0	0	
		95	0	0	0	0	0	0	0	
		94	2	9	0	0	0	11	0	11
		88	140	780	0	0	0	920	0	920
—	Cyanide compounds	96	125,836	723,335	107,054	3,477,384	76,101	4,509,710	95,181	4,604,891
		95	168,727	905,434	89,466	4,429,640	18,580	5,611,847	149,438	5,761,285
		94	125,281	901,153	102,633	3,239,418	13,955	4,382,440	142,896	4,525,336
		88	525,618	721,774	195,244	3,707,326	107,208	5,257,170	581,430	5,838,600
110-82-7	Cyclohexane	96	2,964,377	3,851,714	23,595	314,855	5,552	7,160,093	107,106	7,267,199
		95	3,496,665	4,590,835	19,108	238,200	10,809	8,355,617	105,429	8,461,046
		94	3,567,580	5,164,858	32,012	192,409	18,138	8,974,997	25,359	9,000,356
		88	5,278,415	8,706,227	20,071	334,471	38,190	14,377,374	211,575	14,588,949
94-75-7 *	2,4-D (acetic acid)	96	2,218	3,771	832	0	255	7,076	6,017	13,093
		95	2,580	4,308	1,083	250	4,325	12,546	17,430	29,976
		94	5,797	3,772	133	250	300	10,252	96,785	107,037
		88	3,289	3,731	549	3,789	38,000	49,358	68,422	117,780
1163-19-5	Decabromodiphenyl oxide	96	13,728	31,880	3,675	0	200,838	250,121	620,047	870,168
		95	17,378	21,905	3,846	11	201,698	244,838	686,811	931,649
		94	16,151	153,971	1,958	40	298,191	470,311	990,381	1,460,692
		88	7,500	22,104	500	292	21,450	51,846	555,181	607,027
615-05-4	2,4-Diaminoanisole	96	No reports received							
		95	No reports received							
		94	No reports received							
		88	0	0	0	0	0	0	0	0
39156-41-7	2,4-Diaminoanisole sulfate	96	No reports received							
		95	No reports received							
		94	No reports received							
		88	0	0	0	0	0	0	0	0
101-80-4	4,4'-Diamino-diphenyl ether	96	9	7	182	0	0	198	53	251
		95	5	18	359	0	0	382	120	502
		94	14	102	1,653	0	12	1,781	122	1,903
		88	0	216	585	0	0	801	142	943
95-80-7	2,4-Diaminotoluene	96	211	1,364	0	0	0	1,575	0	1,575
		95	250	250	0	0	0	500	0	500
		94	250	1,767	0	0	0	2,017	0	2,017
		88	2,900	88	250	0	0	3,238	0	3,238
25376-45-8	Diaminotoluene (mixed isomers)	96	10,404	6,845	590	7,600	10	25,449	23,286	48,735
		95	4,372	5,222	5,522	7,050	55	22,221	28,625	50,846
		94	15,213	6,500	3,666	7,700	57	33,136	9,719	42,855
		88	15,202	5,895	3,288	174,000	295	198,680	289,591	488,271
132-64-9	Dibenzofuran	96	22,012	17,242	62	0	265	39,581	28,986	68,567
		95	12,284	6,420	2,843	0	220	21,767	19,824	41,591
		94	15,416	9,070	41	0	1,589	26,116	26,616	52,732
		88	46,687	24,406	1,510	0	9,929	82,532	181,799	264,331

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide



Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Cupferron	96	0	679	0	679	0	0	90	0	0	90	769
	95	0	0	0	0	0	0	5,648	0	0	5,648	5,648
	94	0	0	0	0	0	17,811	0	78	0	17,889	17,900
	88	NA	NA	NA	NA	NA	NA	4,275	780	0	NA	NA
Cyanide compounds	96	588,476	120,114	10,946,174	11,654,764	31,823	22	404,941	236,134	0	672,920	16,757,529
	95	664,976	19,000	9,103,523	9,787,499	25,208	3,523	481,387	230,705	500	741,323	16,220,623
	94	720,386	54,000	11,905,939	12,680,325	26,218	8,094	417,807	164,436	9,104	625,659	17,702,907
	88	NA	NA	NA	NA	NA	NA	1,964,387	1,162,387	150,909	NA	NA
Cyclohexane	96	61,438,279	8,021,506	33,944,668	103,404,453	507,862	2,657,437	1,800,730	8,400	6,909	4,981,338	116,046,627
	95	54,772,521	10,345,060	23,801,493	88,919,074	1,589,125	16,825,499	1,058,702	5,022	0	19,478,348	105,309,693
	94	61,583,742	14,348,519	18,729,599	94,661,860	1,532,896	2,689,551	2,416,126	17,888	0	6,656,461	109,849,256
	88	NA	NA	NA	NA	NA	NA	2,691,889	146,667	37,400	NA	NA
2,4-D (acetic acid)	96	78,758	0	25,360	104,118	0	0	31,635	263	0	31,898	138,148
	95	29,200	0	23,780	52,980	0	0	31,590	20	0	31,610	105,065
	94	66,526	0	16,416	82,942	0	0	45,410	38	0	45,448	170,498
	88	NA	NA	NA	NA	NA	NA	23,335	27,952	0	NA	NA
Decabromodiphenyl oxide	96	902,477	0	48,973	951,450	117,679	4,881	53,022	265,560	0	441,142	2,260,569
	95	992,673	0	32,138	1,024,811	139,936	18,826	64,977	249,108	0	472,847	2,426,235
	94	1,049,121	0	32,504	1,081,625	169,003	30,860	64,923	396,137	0	660,923	2,995,825
	88	NA	NA	NA	NA	NA	NA	76,150	19,090	1,284	NA	NA
2,4-Diaminoanisole	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
2,4-Diaminoanisole sulfate	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
4,4'-Diamino- diphenyl ether	96	0	0	140	140	0	0	9,975	5	0	9,980	10,360
	95	0	0	4,929	4,929	0	0	380,169	5	0	380,174	385,595
	94	11,210	0	15,028	26,238	0	0	9,574	10	0	9,584	37,711
	88	NA	NA	NA	NA	NA	NA	0	179	0	NA	NA
2,4-Diaminotoluene	96	0	0	66,836	66,836	0	0	279	0	0	279	68,690
	95	0	0	7,192	7,192	0	0	29,774	0	0	29,774	37,621
	94	0	0	23,406	23,406	0	480	64,350	0	0	64,830	90,280
	88	NA	NA	NA	NA	NA	NA	0	1,200	0	NA	NA
Diaminotoluene (mixed isomers)	96	0	4,731,680	442,162	5,173,842	0	2,712,895	219,120	95,849	0	3,027,864	9,117,854
	95	0	755,917	362,357	1,118,274	0	386,996	1,925,458	8,720	0	2,321,174	3,476,562
	94	0	3,218,550	1,204,855	4,423,405	321	354,950	507,953	160,640	0	1,023,864	5,492,594
	88	NA	NA	NA	NA	NA	NA	456,114	2,951	250	NA	NA
Dibenzofuran	96	183,852	190	491,323	675,365	4,601	500	132	500	0	5,733	738,244
	95	74,646	113	405,125	479,884	27,735	270	42	503	0	28,550	544,075
	94	93,923	11,000	56,711	161,634	26,485	0	135	508	0	27,128	232,573
	88	NA	NA	NA	NA	NA	NA	51,985	47,726	250	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Transfers Off-site to Disposal	
			Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
106-93-4	1,2-Dibromoethane	96	6,503	2,207	7	24	1	8,742	0	8,742
		95	7,858	4,514	306	0	256	12,934	3	12,937
		94	11,417	3,995	2,788	12	325	18,537	251	18,788
		88	34,119	29,223	1,011	6,882	259	71,494	27,924	99,418
84-74-2	Dibutyl phthalate	96	10,300	74,826	452	180,000	313	265,891	25,217	291,108
		95	24,984	99,248	3,981	390,000	1,402	519,615	25,920	545,535
		94	27,787	65,298	2,327	280,000	750	376,162	68,502	444,664
		88	169,836	34,222	14,339	350,000	6,395	574,792	113,068	687,860
95-50-1	1,2-Dichlorobenzene	96	186,171	101,181	5,324	4,900	384	297,960	17,759	315,719
		95	151,821	119,701	3,789	26,000	11,521	312,832	28,228	341,060
		94	98,285	147,364	2,812	2,900	24,287	275,648	38,095	313,743
		88	206,072	324,463	11,624	20,000	13,354	575,513	38,266	613,779
541-73-1	1,3-Dichlorobenzene	96	1,743	3,375	897	0	0	6,015	0	6,015
		95	2,975	4,553	526	0	0	8,054	0	8,054
		94	1,565	8,207	547	0	0	10,319	0	10,319
		88	5,782	9,500	1,281	0	0	16,563	290	16,853
106-46-7 *	1,4-Dichlorobenzene	96	93,651	142,851	1,881	2,000	480	240,863	0	240,863
		95	118,239	126,323	1,287	0	3,100	248,949	3,328	252,277
		94	114,935	142,276	1,595	2,000	1,100	261,906	0	261,906
		88	103,870	1,787,549	6,153	4,000	1,300	1,902,872	750	1,903,622
25321-22-6	Dichlorobenzene (mixed isomers)	96	239	13,808	0	0	0	14,047	10	14,057
		95	210	5,233	0	0	0	5,443	9	5,452
		94	316	3,726	0	0	0	4,042	9	4,051
		88	20,169	143,515	40	0	0	163,724	19,672	183,396
91-94-1	3,3'-Dichlorobenzidine	96	1	1	0	0	0	2	5,550	5,552
		95	5	6	0	0	0	11	2,400	2,411
		94	5	5	0	0	0	10	1,255	1,265
		88	250	5	752	0	0	1,007	209,785	210,792
75-27-4	Dichlorobromomethane	96	0	2,400	0	0	110	2,510	0	2,510
		95	0	2,300	0	0	50	2,350	0	2,350
		94	0	0	0	0	0	0	0	0
		88	13,440	0	0	0	0	13,440	0	13,440
107-06-2	1,2-Dichloroethane	96	434,047	610,525	1,848	5,126	25,250	1,076,796	91,249	1,168,045
		95	582,589	651,808	5,194	24,339	256	1,264,186	23,671	1,287,857
		94	667,791	1,204,381	7,501	34,296	15	1,913,984	75,642	1,989,626
		88	1,574,325	3,040,854	40,527	1,452,084	2,166	6,109,956	166,131	6,276,087
540-59-0	1,2-Dichloroethylene	96	3,075	5,119	37	0	0	8,231	0	8,231
		95	3,907	4,620	270	0	0	8,797	0	8,797
		94	7,796	7,813	23	0	0	15,632	6	15,638
		88	16,552	109,926	95	0	1	126,574	87,614	214,188
75-09-2	Dichloromethane	96	21,519,922	31,900,543	10,060	749,507	4,957	54,184,989	116,409	54,301,398
		95	23,064,126	34,905,022	28,620	1,140,335	2,064	59,140,167	176,467	59,316,634
		94	25,350,704	38,217,450	52,289	960,942	50,845	64,632,230	314,976	64,947,206
		88	49,679,087	79,480,442	349,960	1,478,833	157,156	131,145,478	10,154,983	141,300,461

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

* Pesticide

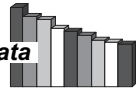


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
1,2-Dibromoethane	96	0	0	11,202	11,202	0	3,301	27,431	0	0	30,732	50,530
	95	0	60	34,174	34,234	0	18	72,467	5	0	72,490	118,458
	94	5,015	1,800	13,532	20,347	116	2	73,737	0	0	73,855	90,170
	88	NA	NA	NA	NA	NA	NA	5,937	253	0	NA	NA
Dibutyl phthalate	96	46,139	333,566	121,193	500,898	13,360	139,274	108,022	6,323	0	266,979	1,057,185
	95	51,458	1,060,538	314,761	1,426,757	26,704	175,700	104,738	5,294	0	312,436	2,145,916
	94	41,908	281,706	146,432	470,046	23,901	239,872	159,366	4,228	0	427,367	1,327,615
	88	NA	NA	NA	NA	NA	NA	157,156	36,523	1,618	NA	NA
1,2-Dichlorobenzene	96	6,431,032	612,089	318,912	7,362,033	2,890,994	587,976	2,685,125	4,368	0	6,168,463	13,824,617
	95	5,527,161	344,610	172,717	6,044,488	3,626,506	767,516	2,658,651	6,481	0	7,059,154	12,774,401
	94	4,477,061	303,389	168,885	4,949,335	2,518,203	777,347	2,153,033	20,607	0	5,469,190	10,708,752
	88	NA	NA	NA	NA	NA	NA	1,947,856	64,118	53,683	NA	NA
1,3-Dichlorobenzene	96	1,793	0	9	1,802	884	0	1,489	796	0	3,169	11,002
	95	5,068	0	10	5,078	1,130	0	3,102	1,401	0	5,633	18,437
	94	823	44,000	14	44,837	7,632	0	1,858	0	0	9,490	63,976
	88	NA	NA	NA	NA	NA	NA	250	40	0	NA	NA
1,4-Dichlorobenzene	96	4,249,806	354,424	130,406	4,734,636	0	12,038	509,105	79	0	521,222	5,496,709
	95	5,355,345	42,157	73,030	5,470,532	35,020	7,081	624,348	5	0	666,454	6,390,445
	94	5,373,248	19,398	26,180	5,418,826	7,531	2,730	272,784	3,303	0	286,348	5,925,804
	88	NA	NA	NA	NA	NA	NA	138,132	37,997	0	NA	NA
Dichlorobenzene (mixed isomers)	96	0	595,086	260,043	855,129	0	13,115	20,133	0	0	33,248	902,613
	95	0	266,997	79,032	346,029	0	5,175	3,684	0	0	8,859	360,330
	94	0	20,649	26,032	46,681	0	2,566	211	0	0	2,777	53,003
	88	NA	NA	NA	NA	NA	NA	104,706	182,663	0	NA	NA
3,3'-Dichloro- benzidine	96	0	0	6,000	6,000	0	0	46,000	250	0	46,250	57,400
	95	0	0	14,000	14,000	0	22,000	1,600	250	0	23,850	40,301
	94	0	0	19,435	19,435	0	12,000	14,500	260	0	26,760	47,106
	88	NA	NA	NA	NA	NA	NA	14,420	617	0	NA	NA
Dichlorobromo- methane	96	0	0	0	0	0	0	0	0	0	0	2,500
	95	0	0	0	0	0	0	0	0	0	0	2,300
	94	0	0	0	0	0	0	0	0	0	0	0
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
1,2-Dichloroethane	96	47,818,476	49,048,528	48,491,110	145,358,114	16,957,172	1,085,108	926,243	6,369	0	18,974,892	165,469,049
	95	59,314,824	32,517,232	74,728,291	166,560,347	15,120,314	592,769	1,953,356	12,846	0	17,679,285	187,166,011
	94	33,973,210	32,728,879	64,344,004	131,046,093	15,625,934	636,747	1,180,057	11,853	0	17,454,591	150,452,423
	88	NA	NA	NA	NA	NA	NA	1,617,555	1,477,242	228,000	NA	NA
1,2-Dichloroethylene	96	620,000	1,560,000	1,828,252	4,008,252	3,109	0	8,701	0	0	11,810	4,051,845
	95	310,000	2,871,400	4,680,089	7,861,489	6,200	0	2,234	0	0	8,434	7,878,334
	94	510,000	2,426,000	4,430,024	7,366,024	2,400	26,100	28	0	0	28,528	7,409,648
	88	NA	NA	NA	NA	NA	NA	125,744	0	0	NA	NA
Dichloromethane	96	112,064,937	5,598,974	23,207,510	140,871,421	11,799,944	3,005,556	11,903,667	640,294	1,815,884	29,165,345	223,690,940
	95	84,922,346	5,240,223	25,514,607	115,677,176	14,298,727	3,344,770	10,893,108	799,579	2,140	29,338,324	204,254,965
	94	60,311,603	12,358,018	18,985,711	91,655,332	20,830,237	3,780,724	11,515,906	824,947	6,817	36,958,631	198,579,448
	88	NA	NA	NA	NA	NA	NA	11,198,082	1,831,154	1,089,604	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).

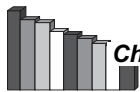


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases					Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds	
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds		Transfers Off-site to Disposal Pounds		
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds							
120-83-2	2,4-Dichlorophenol	96	2,705	412	53	15,390	0	18,560	0	18,560	
		95	3,173	407	245	15,900	0	19,725	0	19,725	
		94	3,045	794	61	10,860	0	14,760	1,815	16,575	
		88	535	868	107	17,700	2	19,212	350	19,562	
78-87-5	1,2-Dichloropropane	96	224,371	290,057	1,855	0	150	516,433	5,330	521,763	
		95	235,605	380,865	4,344	0	20	620,834	1,364	622,198	
		94	303,857	405,690	3,609	215	12	713,383	699	714,082	
		88	315,478	1,079,826	23,785	0	3,400	1,422,489	1,131	1,423,620	
542-75-6 *	1,3-Dichloro-propylene	96	8,686	761	1,270	0	0	10,717	0	10,717	
		95	20,801	10,466	193	0	0	31,460	0	31,460	
		94	21,509	3,161	86	0	0	24,756	0	24,756	
		88	39,790	14,800	250	0	0	54,840	0	54,840	
62-73-7 *	Dichlorvos	96	5	250	5	0	0	260	1,228	1,488	
		95	5	250	5	0	0	260	250	510	
		94	768	513	5	0	0	1,286	7,037	8,323	
		88	1,050	0	0	0	0	1,050	505	1,555	
115-32-2 *	Dicofof	96	460	0	0	0	0	460	250	710	
		95	500	250	0	0	0	750	250	1,000	
		94	255	0	0	0	0	255	0	255	
		88	593	750	0	0	0	1,343	15,786	17,129	
111-42-2	Diethanolamine	96	331,728	144,835	165,714	16,211	42,170	700,658	82,106	782,764	
		95	272,197	87,930	302,582	18,502	40,399	721,610	453,857	1,175,467	
		94	193,558	99,981	222,337	81,164	169,713	766,753	345,062	1,111,815	
		88	443,507	198,081	438,213	238,317	133,456	1,451,574	372,707	1,824,281	
117-81-7	Di-(2-ethylhexyl) phthalate	96	80,785	383,644	274	0	70,311	535,014	1,762,843	2,297,857	
		95	196,105	337,990	867	0	19,705	554,667	2,995,108	3,549,775	
		94	130,493	332,268	957	0	5,308	469,026	1,985,373	2,454,399	
		88	181,545	1,035,768	2,776	3,091	20,748	1,243,928	3,629,163	4,873,091	
64-67-5	Diethyl sulfate	96	3,024	184	0	0	0	3,208	47	3,255	
		95	6,846	132	0	0	0	6,978	250	7,228	
		94	6,305	622	10	0	5	6,942	0	6,942	
		88	8,436	2,191	0	0	250	10,877	0	10,877	
119-90-4	3,3'-Dimethoxy-benzidine	96	0	0	0	0	0	0	0	0	
		95	0	0	0	0	0	0	0	0	
		94	3	0	5	0	0	8	0	8	
		88	No reports received								
121-69-7	N,N-Dimethylaniline	96	17,736	48,557	128	0	0	66,421	0	66,421	
		95	7,200	27,212	388	0	0	34,800	435	35,235	
		94	5,441	16,651	584	0	0	22,676	0	22,676	
		88	18,448	80,457	19,967	0	250	119,122	772	119,894	
119-93-7	3,3'-Dimethyl-benzidine	96	3	3	25	0	0	31	229	260	
		95	No reports received								
		94	No reports received								
		88	No reports received								

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide



Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
2,4-Dichlorophenol	96	1,240	3	420,660	421,903	0	0	0	0	0	0	440,459
	95	1,460	3	336,936	338,399	0	0	0	0	0	0	358,119
	94	1,412	0	125,546	126,958	0	0	0	0	0	0	139,538
	88	NA	NA	NA	NA	NA	NA	12,559	6	0	NA	NA
1,2-Dichloropropane	96	37,213,000	22,560,000	5,117,425	64,890,425	0	0	142	1,513	0	1,655	65,413,342
	95	56,000,000	28,380,000	11,573,182	95,953,182	0	0	3,591	4,116	0	7,707	96,581,303
	94	55,000,024	25,700,000	20,023,630	100,723,654	0	1	2,037	253	0	2,291	101,437,925
	88	NA	NA	NA	NA	NA	NA	3,782	136,775	0	NA	NA
1,3-Dichloro- propylene	96	3,036,700	14,000,000	573,241	17,609,941	0	4,724	53,855	0	0	58,579	17,678,872
	95	4,892,986	11,930,000	969,916	17,792,902	470	123	2,476	0	0	3,069	17,827,670
	94	26,057,000	22,800,000	6,280,671	55,137,671	5,007	1,703	11,934	0	0	18,644	55,180,157
	88	NA	NA	NA	NA	NA	NA	2,738	0	0	NA	NA
Dichlorvos	96	0	0	10	10	0	104	395	0	0	499	1,805
	95	33	0	10	43	0	250	1,000	0	0	1,250	1,426
	94	80	0	63	143	0	250	755	0	0	1,005	2,117
	88	NA	NA	NA	NA	NA	NA	1,011	0	0	NA	NA
Dicofol	96	19	0	0	19	0	0	250	0	0	250	329
	95	150	0	0	150	0	0	250	0	0	250	527
	94	270	0	0	270	0	0	250	0	0	250	441
	88	NA	NA	NA	NA	NA	NA	9,380	0	0	NA	NA
Diethanolamine	96	14,024	56,991	2,093,114	2,164,129	92,356	215,991	356,576	1,540,734	0	2,205,657	5,162,230
	95	27,718	102,766	2,841,679	2,972,163	155,597	733,052	170,817	1,464,088	0	2,523,554	6,619,178
	94	38,462	103,860	2,635,988	2,778,310	268,541	432,845	295,008	1,503,182	0	2,499,576	5,797,088
	88	NA	NA	NA	NA	NA	NA	733,874	2,002,497	221,811	NA	NA
Di-(2-ethylhexyl) phthalate	96	3,346,141	354,639	290,002	3,990,782	3,876,237	274,610	225,525	21,084	0	4,397,456	10,972,505
	95	2,630,089	100,013	557,557	3,287,659	3,840,273	263,015	265,924	21,170	0	4,390,382	11,582,932
	94	3,045,333	150,969	630,340	3,826,642	5,919,351	284,164	213,799	29,857	0	6,447,171	12,857,342
	88	NA	NA	NA	NA	NA	NA	825,367	169,896	117,050	NA	NA
Diethyl sulfate	96	0	0	4,621	4,621	3,293,130	0	1,511	4,288	0	3,298,929	3,306,606
	95	0	0	3,370	3,370	6,420,000	415	1,655	3,480	0	6,425,550	6,415,618
	94	0	0	4,082	4,082	6,180,000	76	1,892	4,565	0	6,186,533	6,117,958
	88	NA	NA	NA	NA	NA	NA	0	890	0	NA	NA
3,3'-Dimethoxy- benzidine	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	94	0	0	483	483	0	0	0	33	0	33	524
	88	No reports received										
N,N-Dimethylaniline	96	48,000	0	6,895	54,895	0	1,087,965	80,649	95,542	0	1,264,156	1,382,346
	95	50,535	0	2,154	52,689	0	745,704	83,476	121,258	0	950,438	1,107,575
	94	52,500	0	50,972	103,472	0	640,609	73,839	145,372	0	859,820	1,055,971
	88	NA	NA	NA	NA	NA	NA	465,397	287,483	0	NA	NA
3,3'-Dimethyl- benzidine	96	0	0	2,287	2,287	0	0	0	0	0	0	2,547
	95	No reports received										
	94	No reports received										
	88	No reports received										

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Pounds	
57-14-7	1,1-Dimethyl - hydrazine	96	259	43	0	0	1	303	425	728
		95	261	38	0	0	0	299	5	304
		94	721	26	0	0	0	747	5	752
		88	2,206	2,117	10	0	0	4,333	8,855	13,188
105-67-9 *	2,4-Dimethylphenol	96	16,838	40,836	100	140,000	0	197,774	821	198,595
		95	15,696	37,101	33	79,000	5	131,835	17	131,852
		94	17,252	40,496	704	64,000	250	122,702	1,448	124,150
		88	1,661	9,927	484	24,703	399	37,174	1,500	38,674
131-11-3	Dimethyl phthalate	96	52,537	101,917	551	1,000	8	156,013	3,615	159,628
		95	116,214	222,873	275	1,000	5	340,367	2,524	342,891
		94	67,703	199,555	266	1,200	5	268,729	3,802	272,531
		88	113,841	421,215	4,335	390	504	540,285	93,358	633,643
77-78-1	Dimethyl sulfate	96	4,977	819	0	0	0	5,796	0	5,796
		95	5,154	1,278	1	0	0	6,433	0	6,433
		94	5,356	1,421	300	0	0	7,077	0	7,077
		88	9,176	1,630	610	0	50	11,466	0	11,466
534-52-1	4,6-Dinitro-o-cresol	96	5	95	0	0	0	100	27,820	27,920
		95	20	125	0	4,649	0	4,794	7,220	12,014
		94	6	84	5	0	0	95	5,953	6,048
		88	259	15	266	0	2	542	46,648	47,190
51-28-5	2,4-Dinitrophenol	96	151	31	65,869	0	0	66,051	2	66,053
		95	111	1	2,000	0	0	2,112	0	2,112
		94	121	2	2,312	36,900	9	39,344	70	39,414
		88	12,386	8,439	98,692	86,200	257	205,974	110,285	316,259
121-14-2	2,4-Dinitrotoluene	96	1,888	3	349	0	0	2,240	0	2,240
		95	1,871	3	231	0	0	2,105	94	2,199
		94	1,848	51	399	0	0	2,298	255	2,553
		88	15,533	77,724	12,055	106,400	14,961	226,673	124,281	350,954
606-20-2	2,6-Dinitrotoluene	96	471	1	94	0	0	566	0	566
		95	468	1	126	0	0	595	0	595
		94	503	13	374	0	0	890	0	890
		88	6,074	81,523	957	27,000	0	115,554	30,882	146,436
123-91-1	1,4-Dioxane	96	41,019	78,937	226,998	0	5,409	352,363	479,388	831,751
		95	115,046	108,098	216,689	0	5,736	445,569	352,996	798,565
		94	121,159	109,760	305,771	0	2,266	538,956	16,115	555,071
		88	361,259	251,374	203,320	0	11,702	827,655	10,954	838,609
106-89-8	Epichlorohydrin	96	246,061	84,963	20,735	0	2,205	353,964	4,137	358,101
		95	209,269	112,130	26,937	0	18,874	367,210	893	368,103
		94	271,224	119,913	3,486	0	754	395,377	183	395,560
		88	506,142	200,965	4,917	68,750	2,524	783,298	307	783,605
110-80-5	2-Ethoxyethanol	96	66,539	125,923	6	0	0	192,468	250	192,718
		95	88,677	134,263	891	0	0	223,831	12,595	236,426
		94	78,298	154,656	104	0	2	233,060	0	233,060
		88	281,053	2,150,257	120,164	0	52	2,551,526	71,142	2,622,668

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

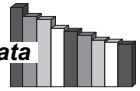


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production- related Waste Pounds
1,1-Dimethyl hydrazine	96	0	9,215	4,237	13,452	0	7,001	8,806	0	0	15,807	22,980
	95	0	0	3,639	3,639	57	0	10	0	0	67	4,008
	94	0	0	2,604	2,604	46	0	3,308	0	0	3,354	6,716
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
2,4-Dimethylphenol	96	33,354	1,836,216	562,773	2,432,343	58,775	90,569	23,610	5,675	0	178,629	2,808,945
	95	37,140	1,573,273	397,965	2,008,378	30,368	50,737	67,100	6,412	0	154,617	2,296,426
	94	48,340	1,287,320	334,334	1,669,994	46,074	43,599	28,001	6,161	0	123,835	1,920,163
	88	NA	NA	NA	NA	NA	NA	1,250	7,964	0	NA	NA
Dimethyl phthalate	96	0	225,020	360,632	585,652	0	84,755	16,715	53,702	0	155,172	866,200
	95	4,288	253,605	356,058	613,951	800	70,353	52,335	168,561	0	292,049	1,248,809
	94	8,873	192,701	437,415	638,989	5,276	88,147	14,290	95,856	0	203,569	1,057,852
	88	NA	NA	NA	NA	NA	NA	44,454	508,821	0	NA	NA
Dimethyl sulfate	96	100,000	0	76,354	176,354	77,756	0	0	5	0	77,761	259,207
	95	0	1	352,841	352,842	171,230	0	3	0	0	171,233	529,610
	94	0	3	209,888	209,891	35,803	0	0	10	0	35,813	251,590
	88	NA	NA	NA	NA	NA	NA	0	1,000	0	NA	NA
4,6-Dinitro-o-cresol	96	0	716,801	29,000	745,801	0	0	8,390	626	0	9,016	762,305
	95	0	452,120	18,000	470,120	0	410	12,600	2,127	0	15,137	491,860
	94	0	1,057,120	13,000	1,070,120	0	74	10,186	640	0	10,900	1,086,866
	88	NA	NA	NA	NA	NA	NA	259,448	19	0	NA	NA
2,4-Dinitrophenol	96	0	319,777	1,207,434	1,527,211	0	1	0	0	0	1	1,593,115
	95	0	556,712	1,160,000	1,716,712	0	9	219	0	0	228	1,719,044
	94	0	276,162	880,000	1,156,162	0	0	12,375	0	0	12,375	1,207,928
	88	NA	NA	NA	NA	NA	NA	567,365	1,000	0	NA	NA
2,4-Dinitrotoluene	96	0	51,527	35,270	86,797	840	0	0	0	0	840	103,418
	95	0	42,345	27,115	69,460	0	9	1,381	0	0	1,390	73,050
	94	0	992	19,715	20,707	0	1,187	0	0	0	1,187	24,192
	88	NA	NA	NA	NA	NA	NA	2,055	700,000	0	NA	NA
2,6-Dinitrotoluene	96	0	1,711	23,500	25,211	0	0	26	0	0	26	25,803
	95	0	6,160	9,180	15,340	0	1	118	0	0	119	16,054
	94	0	248	16,626	16,874	0	156	0	0	0	156	17,920
	88	NA	NA	NA	NA	NA	NA	703	170,000	0	NA	NA
1,4-Dioxane	96	5,592,026	3,126,659	1,074,367	9,793,052	846	1,371,301	22,070	160,497	0	1,554,714	12,186,086
	95	74,293	1,975,960	1,019,104	3,069,357	13,524	1,196,939	87,738	232,060	0	1,530,261	5,370,266
	94	117,534	1,190,953	1,266,311	2,574,798	23,697	619,260	75,289	329,212	0	1,047,458	4,160,395
	88	NA	NA	NA	NA	NA	NA	199,402	203,103	925	NA	NA
Epichlorohydrin	96	20,158,532	5,863,590	2,992,084	29,014,206	2	75,430	1,443,664	11,471	0	1,530,567	30,901,434
	95	13,263,282	4,331,319	4,191,552	21,786,153	120	170,813	994,600	11,300	0	1,176,833	23,253,866
	94	6,701,226	432,000	9,786,735	16,919,961	0	183,888	880,789	38,615	0	1,103,292	18,420,190
	88	NA	NA	NA	NA	NA	NA	690,257	73,385	0	NA	NA
2-Ethoxyethanol	96	6,210	480,076	662,210	1,148,496	22,801	163,808	82,677	78,269	0	347,555	1,617,777
	95	2,300	512,864	1,253,431	1,768,595	1,715	178,000	49,982	389,516	0	619,213	2,573,541
	94	7,000	622,137	736,710	1,365,847	304,696	315,815	34,335	355,198	0	1,010,044	2,507,459
	88	NA	NA	NA	NA	NA	NA	366,979	196,286	250	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Transfers Off-site to Disposal	
			Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
140-88-5	Ethyl acrylate	96	88,053	98,738	199	0	516	187,506	32,734	220,240
		95	97,225	110,219	542	0	523	208,509	10,182	218,691
		94	92,394	104,838	253	0	18	197,503	20,051	217,554
		88	126,521	119,461	1,211	0	265	247,458	7,110	254,568
100-41-4	Ethylbenzene	96	2,487,776	6,902,212	7,080	335,932	61,827	9,794,827	95,603	9,890,430
		95	2,696,880	7,506,909	9,346	475,234	19,174	10,707,543	164,501	10,872,044
		94	3,310,504	8,778,324	10,957	633,869	54,259	12,787,913	299,813	13,087,726
		88	3,210,068	4,508,713	15,970	72,914	175,180	7,982,845	421,334	8,404,179
541-41-3	Ethyl chloroformate	96	4,295	446	5	0	5	4,751	0	4,751
		95	1,650	370	5	0	5	2,030	0	2,030
		94	3,106	435	5	0	5	3,551	0	3,551
		88	11,880	2,023	0	0	0	13,903	0	13,903
74-85-1	* Ethylene	96	16,159,552	19,627,812	25,228	0	8,080	35,820,672	10,845	35,831,517
		95	14,252,193	19,831,923	27,574	0	16	34,111,706	1,771	34,113,477
		94	15,128,256	19,662,090	27,690	0	0	34,818,036	17	34,818,053
		88	22,997,664	27,512,725	15,214	17,203	13,250	50,556,056	11,432	50,567,488
107-21-1	Ethylene glycol	96	2,787,138	3,232,634	1,842,307	7,699,484	429,976	15,991,539	2,576,966	18,568,505
		95	3,591,238	3,681,932	806,343	12,554,675	850,294	21,484,482	1,468,773	22,953,255
		94	5,331,705	4,647,882	831,925	4,958,550	1,069,218	16,839,280	1,683,636	18,522,916
		88	4,094,037	9,124,302	3,747,561	7,927,570	736,344	25,629,814	2,595,526	28,225,340
151-56-4	Ethyleneimine	96	0	2	0	0	0	2	0	2
		95	0	3	0	0	0	3	0	3
		94	0	0	0	0	0	0	0	0
		88	250	250	0	0	0	500	0	500
75-21-8	* Ethylene oxide	96	436,537	352,902	4,474	22,200	551	816,664	1,048	817,712
		95	432,181	413,876	5,225	130,000	2,208	983,490	8,663	992,153
		94	401,303	327,158	2,088	8,100	785	739,434	5,421	744,855
		88	923,731	3,708,003	44,851	11,125	54,700	4,742,410	20,663	4,763,073
96-45-7	Ethylene thiourea	96	5	263	0	0	0	268	4,071	4,339
		95	5	520	0	0	0	525	16,165	16,690
		94	5	524	0	0	0	529	2,819	3,348
		88	0	500	0	0	0	500	2,250	2,750
2164-17-2	* Fluometuron	96	270	717	0	0	0	987	2,505	3,492
		95	275	521	0	0	0	796	2,355	3,151
		94	290	542	0	0	0	832	2,335	3,167
		88	250	250	0	0	0	500	3,700	4,200
50-00-0	* Formaldehyde	96	1,779,994	9,639,206	320,003	9,403,275	114,406	21,256,884	329,509	21,586,393
		95	1,794,851	9,942,916	274,073	7,313,034	132,415	19,457,289	210,738	19,668,027
		94	1,966,258	9,934,767	388,770	7,739,510	149,116	20,178,421	249,121	20,427,542
		88	3,104,302	9,155,886	904,546	9,608,524	494,111	23,267,369	1,409,999	24,677,368
76-13-1	Freon 113	96	992,423	409,756	786	0	0	1,402,965	1,147	1,404,112
		95	1,676,952	931,484	3,829	6	0	2,612,271	2,560	2,614,831
		94	3,602,795	1,738,146	1,504	0	0	5,342,445	20,434	5,362,879
		88	46,974,941	23,407,650	32,894	5,965	27,799	70,449,249	1,924,043	72,373,292

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

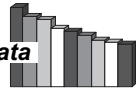


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Ethyl acrylate	96	284,024	7,177,162	16,524,991	23,986,177	45,497	792,458	329,056	24,090	0	1,191,101	25,394,505
	95	79	8,159,780	487,840	8,647,699	32,449	1,392,322	65,529	29,764	0	1,520,064	10,350,562
	94	119	7,563,754	480,893	8,044,766	46,359	1,613,608	50,466	26,959	0	1,737,392	9,921,318
	88	NA	NA	NA	NA	NA	NA	101,345	27,656	250	NA	NA
Ethylbenzene	96	33,064,962	31,512,229	60,433,909	125,011,100	5,339,992	8,905,167	1,685,706	76,581	0	16,007,446	154,127,108
	95	24,687,044	40,925,948	23,835,843	89,448,835	5,076,880	11,536,465	1,708,445	64,976	0	18,386,766	119,133,053
	94	19,085,208	37,831,602	16,549,964	73,466,774	5,021,693	9,077,404	1,944,638	60,853	750	16,105,338	102,493,584
	88	NA	NA	NA	NA	NA	NA	2,356,770	511,285	269,164	NA	NA
Ethyl chloroformate	96	0	0	11,600	11,600	0	0	0	0	0	0	16,271
	95	0	0	3,300	3,300	0	0	0	0	0	0	5,280
	94	0	0	9,289	9,289	0	10	761	0	0	771	13,310
	88	NA	NA	NA	NA	NA	NA	69,600	0	0	NA	NA
Ethylene	96	194,529,481	490,573,955	483,574,781	1,168,678,217	13,317	13,028,335	1,112,185	261	0	14,154,098	1,216,494,526
	95	196,803,539	489,114,835	495,562,836	1,181,481,210	3	10,615,177	2,116,256	267	0	12,731,703	1,227,844,079
	94	336,088,862	622,560,405	379,721,676	1,338,370,943	0	9,961,635	25,854	563	0	9,988,052	1,384,679,742
	88	NA	NA	NA	NA	NA	NA	29,887	250	0	NA	NA
Ethylene glycol	96	378,289,176	6,653,981	57,466,450	442,409,607	110,548,356	17,019,781	6,086,887	16,587,111	44,588	150,286,723	615,585,898
	95	335,925,025	5,926,147	65,623,434	407,474,606	128,107,827	13,213,485	16,060,644	19,243,543	0	176,625,499	605,522,865
	94	269,678,744	15,499,587	63,631,998	348,810,329	121,046,470	7,687,505	16,304,972	16,892,568	0	161,931,515	528,313,865
	88	NA	NA	NA	NA	NA	NA	14,505,355	17,420,231	465,625	NA	NA
Ethyleneimine	96	0	0	22,000	22,000	0	0	0	0	0	0	22,002
	95	0	0	34,000	34,000	0	0	0	0	0	0	34,003
	94	0	0	0	0	0	0	0	0	0	0	0
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Ethylene oxide	96	114,788	28,135	13,246,872	13,389,795	6,664	0	963	117,227	0	124,854	14,316,592
	95	124,261	16,940	9,641,229	9,782,430	5,205	0	786	57,079	0	63,070	10,817,831
	94	2,689,212	68,940	7,616,740	10,374,892	6,177	1	6,630	103,723	0	116,531	11,247,215
	88	NA	NA	NA	NA	NA	NA	1,250	362,521	0	NA	NA
Ethylene thiourea	96	0	0	0	0	2,735	0	2,815	1	0	5,551	9,645
	95	1	0	1	2	840	0	6,280	5	0	7,125	23,401
	94	0	0	1	1	780	0	8,240	5	0	9,025	12,205
	88	NA	NA	NA	NA	NA	NA	250	500	0	NA	NA
Fluometuron	96	0	0	0	0	0	5	14,035	235	0	14,275	18,576
	95	0	0	0	0	0	5	27,300	225	0	27,530	22,548
	94	0	0	0	0	0	0	2,009	255	0	2,264	4,840
	88	NA	NA	NA	NA	NA	NA	19,100	2,300	0	NA	NA
Formaldehyde	96	87,248,040	8,433,075	71,530,408	167,211,523	40,083	212,122	701,402	1,888,772	0	2,842,379	191,563,245
	95	75,909,072	6,768,162	68,561,312	151,238,546	57,001	436,028	688,468	2,340,020	2	3,521,519	174,068,150
	94	75,021,993	6,820,638	77,569,178	159,411,809	49,281	283,343	710,619	2,703,261	0	3,746,504	183,527,799
	88	NA	NA	NA	NA	NA	NA	1,326,663	4,382,254	3,580	NA	NA
Freon 113	96	692,774	74,113	219,059,366	219,826,253	114,875	53,651	1,074,322	255	0	1,243,103	222,533,621
	95	2,355,210	0	250,260,926	252,616,136	890,932	101,543	515,135	31,220	0	1,538,830	256,832,833
	94	6,928,804	148,908	280,047,264	287,124,976	1,953,208	163,558	963,217	39,023	0	3,119,006	295,689,092
	88	NA	NA	NA	NA	NA	NA	4,037,767	104,441	300,965	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases					Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds			
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
—	Glycol ethers	96	8,347,921	31,823,871	143,511	99,208	58,625	40,473,136	653,180	41,126,316
		95	9,280,583	35,011,350	183,996	132,064	25,145	44,633,138	773,959	45,407,097
		94	10,674,431	38,787,593	256,770	128,096	50,880	49,897,770	707,262	50,605,032
		88	10,479,172	38,222,062	284,687	362,198	105,185	49,453,304	1,478,290	50,931,594
76-44-8	* Heptachlor	96	198	0	5	0	0	203	0	203
		95	203	0	6	0	0	209	0	209
		94	830	0	3	0	0	833	0	833
		88	54,292	3	2	0	0	54,297	0	54,297
118-74-1	Hexachlorobenzene	96	115	105	274	717	0	1,211	23,449	24,660
		95	477	89	6,458	480	0	7,504	6,975	14,479
		94	346	112	269	204	0	931	940,478	941,409
		88	3,602	443	4	410	0	4,459	443,541	448,000
87-68-3	Hexachloro-1,3-butadiene	96	1,374	1,007	256	952	0	3,589	310	3,899
		95	2,287	1,023	661	434	0	4,405	252	4,657
		94	1,189	221	351	201	0	1,962	430	2,392
		88	2,043	465	153	220	0	2,881	19,640	22,521
77-47-4	Hexachlorocyclopentadiene	96	7,451	515	0	250	0	8,216	1,000	9,216
		95	8,196	115	6	250	0	8,567	2,600	11,167
		94	7,675	1,248	1	250	0	9,174	0	9,174
		88	77,902	415	6	2,131	0	80,454	28,470	108,924
67-72-1	Hexachloroethane	96	2,122	759	32	2,024	0	4,937	471	5,408
		95	3,097	11,454	3,330	1,378	0	19,259	1,208	20,467
		94	4,736	1,515	447	326	0	7,024	352,559	359,583
		88	2,949	16,128	11	520	1	19,609	128,504	148,113
302-01-2	Hydrazine	96	7,797	2,646	23	0	250	10,716	18,549	29,265
		95	10,322	3,598	3	0	5	13,928	23,504	37,432
		94	11,544	4,847	292	250	29	16,962	4,600	21,562
		88	27,510	7,689	2,149	0	29	37,377	24,522	61,899
10034-93-2	Hydrazine sulfate	96	0	0	0	350,000	0	350,000	0	350,000
		95	0	0	0	260,000	0	260,000	0	260,000
		94	0	2	0	230,000	0	230,002	0	230,002
		88	290	882	0	355,000	0	356,172	0	356,172
74-90-8	Hydrogen cyanide	96	74,893	2,311,807	105	528,513	3	2,915,321	1,164	2,916,485
		95	106,824	2,375,132	763	683,154	3	3,165,876	326	3,166,202
		94	73,817	2,208,809	712	860,568	6	3,143,912	802	3,144,714
		88	131,604	977,673	2,300	1,737,850	1,761	2,851,188	1,001	2,852,189
7664-39-3	Hydrogen fluoride	96	3,508,122	8,955,387	10,691	2,620	36,834	12,513,654	553,050	13,066,704
		95	3,226,504	7,799,276	8,702	3,845	24,078	11,062,405	1,012,893	12,075,298
		94	2,670,376	5,995,447	14,989	2,174	33,443	8,716,429	761,422	9,477,851
		88	3,725,362	11,006,932	189,928	250	13,002	14,935,474	3,467,471	18,402,945
123-31-9	Hydroquinone	96	13,974	14,039	2,652	290,000	0	320,665	2,628	323,293
		95	14,351	2,999	5,093	340,005	43	362,491	4,406	366,897
		94	16,200	28,861	4,457	456,762	42	506,322	3,396	509,718
		88	3,601	6,733	7,211	375,400	530	393,475	6,835	400,310

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

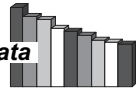


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production- related Waste Pounds
Glycol ethers	96	195,662,187	43,392,075	27,509,395	266,563,657	3,320,310	14,836,166	2,299,832	11,095,899	2,530	31,554,737	341,156,273
	95	197,150,993	42,745,970	30,599,270	270,496,233	3,595,114	14,078,617	2,959,988	10,270,267	510	30,904,496	345,892,187
	94	198,883,751	20,308,790	33,488,218	252,680,759	4,282,450	14,474,545	4,307,399	11,122,579	14,932	34,201,905	336,725,899
	88	NA	NA	NA	NA	NA	NA	5,797,914	8,981,781	540,276	NA	NA
Heptachlor	96	0	0	2,206	2,206	0	0	16,073	32	0	16,105	18,514
	95	0	0	3,850	3,850	0	0	822	29	0	851	4,910
	94	0	0	3,900	3,900	0	0	4,300	77	0	4,377	9,130
	88	NA	NA	NA	NA	NA	NA	51,935	37	0	NA	NA
Hexachlorobenzene	96	7,100	240,000	2,132,566	2,379,666	1	2,215	42,146	0	0	44,362	2,448,643
	95	6,200	0	2,865,008	2,871,208	1	0	433,736	1	0	433,738	3,318,505
	94	6,700	19,398	2,151,738	2,177,836	1	0	65,263	250	0	65,514	3,184,039
	88	NA	NA	NA	NA	NA	NA	521,558	160	0	NA	NA
Hexachloro- 1,3-butadiene	96	0	66,000	6,107,496	6,173,496	0	0	277,522	2	0	277,524	6,455,792
	95	0	133,000	6,778,662	6,911,662	13	0	163,218	2	0	163,233	7,081,089
	94	260,000	170,000	4,445,710	4,875,710	0	0	60,084	6	0	60,090	4,937,778
	88	NA	NA	NA	NA	NA	NA	3,513,001	300	0	NA	NA
Hexachlorocyclo- pentadiene	96	0	0	246,437	246,437	0	800	55,082	1,580	0	57,462	312,981
	95	0	0	272,865	272,865	0	0	24,199	709	0	24,908	308,856
	94	0	0	249,000	249,000	0	1,250	27,672	1,303	0	30,225	287,930
	88	NA	NA	NA	NA	NA	NA	590,845	852	0	NA	NA
Hexachloroethane	96	0	939,000	4,600,732	5,539,732	0	71,034	120,921	0	0	191,955	5,736,137
	95	4,800	1,232,400	4,875,108	6,112,308	0	75,132	107,678	0	0	182,810	6,326,781
	94	325,000	199,270	11,185,582	11,709,852	0	61,000	18,745	0	0	79,745	12,157,576
	88	NA	NA	NA	NA	NA	NA	532,352	260	0	NA	NA
Hydrazine	96	0	300	338,596	338,896	1	65	1,961	3,733	0	5,760	373,612
	95	300	0	42,532	42,832	57	0	2,551	4,668	0	7,276	89,400
	94	150	0	101,373	101,523	46	0	4,960	4,960	0	9,966	131,823
	88	NA	NA	NA	NA	NA	NA	36,582	1,218	0	NA	NA
Hydrazine sulfate	96	0	0	0	0	0	0	0	0	0	0	350,000
	95	0	0	1,900	1,900	0	0	0	1,900	0	1,900	263,800
	94	0	0	2,300	2,300	0	0	0	2,300	0	2,300	234,602
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Hydrogen cyanide	96	73,467	33,847,854	27,343,220	61,264,541	0	250	3,316	1,380	0	4,946	64,188,841
	95	72,134	33,141,239	25,143,135	58,356,508	0	250	179	10,124	0	10,553	61,508,025
	94	75,303	33,577,954	21,259,822	54,913,079	0	250	770	7,033	0	8,053	58,042,596
	88	NA	NA	NA	NA	NA	NA	21,200	337	250	NA	NA
Hydrogen fluoride	96	113,956,854	0	102,386,943	216,343,797	300,265	6,692	2,063,848	336,467	0	2,707,272	232,944,508
	95	92,471,855	0	102,990,169	195,462,024	183,734	9,426	2,467,803	384,089	0	3,045,052	210,446,832
	94	67,498,455	37,909	116,833,727	184,370,091	212,513	0	2,533,474	349,379	0	3,095,366	196,597,904
	88	NA	NA	NA	NA	NA	NA	2,841,628	508,939	64,252	NA	NA
Hydroquinone	96	962	1,298,419	388,600	1,687,981	0	47,951	99,588	32,930	0	180,469	2,189,143
	95	960	1,000,833	512,185	1,513,978	0	37,786	41,092	59,568	0	138,446	2,001,326
	94	3,802	1,068,662	361,348	1,433,812	0	3,900	29,043	150,987	0	183,930	2,122,405
	88	NA	NA	NA	NA	NA	NA	303,106	512,180	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).

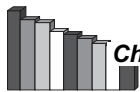


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases	Transfers Off-site to Disposal	
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions						
78-84-2	Isobutyraldehyde	96	106,793	88,280	1,791	2,374	1	199,239	1,000	200,239
		95	111,667	144,612	752	44,075	47	301,153	0	301,153
		94	167,790	207,317	472	72,553	0	448,132	69,306	517,438
		88	178,740	507,178	773	60	1	686,752	0	686,752
67-63-0 *	Isopropyl alcohol (manufacturing)	96	289,954	770,538	0	0	0	1,060,492	8,296	1,068,788
		95	358,745	602,930	0	0	0	961,675	2,577	964,252
		94	288,363	708,538	0	0	250	997,151	1,550	998,701
		88	790,482	1,210,915	1,900	0	14	2,003,311	247,039	2,250,350
80-05-7	4,4'-Isopropylidene-diphenol	96	112,706	71,321	4,803	25,000	251,387	465,217	320,605	785,822
		95	119,924	35,675	5,809	82,000	86,697	330,105	420,944	751,049
		94	137,408	100,540	18,260	99,184	288,032	643,424	392,926	1,036,350
		88	119,870	107,056	126,385	0	424,117	777,428	444,560	1,221,988
7439-92-1	Lead	96	192,275	425,787	12,233	0	3,411,088	4,041,383	1,743,638	5,785,021
		95	341,568	387,091	10,600	0	2,342,855	3,082,114	2,094,016	5,176,130
		94	96,752	321,472	12,519	0	501,484	932,227	1,697,238	2,629,465
		88	484,036	644,006	61,791	5	6,648,946	7,838,784	10,728,220	18,567,004
—	Lead compounds	96	434,594	752,764	50,186	794	11,568,368	12,806,706	21,476,996	34,283,702
		95	386,089	912,312	52,451	912	12,341,966	13,693,730	17,001,174	30,694,904
		94	510,322	892,360	54,990	1,263	14,652,126	16,111,061	20,743,194	36,854,255
		88	355,487	1,178,369	180,368	2,755	20,035,359	21,752,338	14,254,774	36,007,112
58-89-9 *	Lindane	96	255	255	5	0	250	765	276	1,041
		95	255	255	0	0	0	510	20	530
		94	280	299	5	0	5	589	42	631
		88	251	7	0	0	0	258	56	314
108-31-6	Maleic anhydride	96	65,216	500,783	15	10	1,000	567,024	10,666	577,690
		95	74,881	262,953	18	5	1,406	339,263	14,429	353,692
		94	77,053	171,413	312	5	2,288	251,071	23,262	274,333
		88	126,174	550,604	12,580	240,000	250	929,608	132,148	1,061,756
12427-38-2 *	Maneb	96	0	0	0	0	0	0	250	250
		95	5	268	0	0	0	273	2,461	2,734
		94	255	17	0	0	0	272	13,553	13,825
		88	1,000	1,265	250	0	0	2,515	5,285	7,800
7439-96-5	Manganese**	96	6,751,776	384,254	117,375	8	10,040,371	17,293,784	13,905,393	31,199,177
		95	459,936	228,440	116,527	17	8,278,350	9,083,270	10,682,340	19,765,610
		94	570,041	238,758	88,911	10	8,493,774	9,391,494	13,053,613	22,445,107
		88	1,046,438	538,636	321,992	255	20,229,826	22,137,147	17,886,739	40,023,886
—	Manganese compounds	96	806,259	1,020,847	1,901,227	17,688	40,149,495	43,895,516	26,664,625	70,560,141
		95	703,419	2,108,367	806,071	3,590	41,279,762	44,901,209	22,874,466	67,775,675
		94	1,121,570	1,858,160	747,825	5,930	37,738,053	41,471,538	22,637,683	64,109,221
		88	583,222	1,217,749	681,469	6,816,070	84,226,474	93,524,984	18,063,196	111,588,180

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

***Pesticide**

** One facility reported 6,211,171 pounds of fugitive air emissions of manganese in error for 1996; the correct amount is 750 pounds. Fugitive air emissions for manganese should be 541,355 pounds.

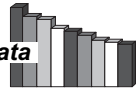


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Energy				Total On-site Waste Management Pounds	Transfers					Total Off-site Waste Management Pounds	Total Production-related Waste Pounds
		Recycled On-site Pounds	Recovery On-site Pounds	Treated On-site Pounds	Other Off-site Transfers Pounds		to Recycling Pounds	to Energy Recovery Pounds	to Treatment Pounds	to POTWs Pounds	Other Off-site Transfers Pounds		
Isobutyraldehyde	96	5,109	2,316,637	555,954	2,877,700	4,110	492,237	50,743	73,213	0	620,303	3,738,528	
	95	0	1,193,119	609,409	1,802,528	10,927	567,584	96,600	0	0	675,111	2,756,713	
	94	2,485	2,208,563	576,124	2,787,172	1,696	626,772	53,037	45,433	0	726,938	4,052,043	
	88	NA	NA	NA	NA	NA	NA	30,260	713	0	NA	NA	
Isopropyl alcohol (manufacturing)	96	125,634	3,274,940	146,031	3,546,605	10,631	430,297	23,421	142,613	36,060	643,022	4,936,742	
	95	62,894	2,684,671	141,356	2,888,921	44,266	75,604	228,374	3,221	0	351,465	4,042,971	
	94	453,686	10,322,798	59,212	10,835,696	39,579	313,270	34,654	1,570	0	389,073	12,249,034	
	88	NA	NA	NA	NA	NA	NA	319,961	161,751	129,407	NA	NA	
4,4'-Isopropylidene-diphenol	96	102,400	8,712,328	998,531	9,813,259	1,620	75,268	57,588	19,576	0	154,052	10,791,340	
	95	56,348	5,024,865	824,095	5,905,308	2,377	408,778	67,242	21,011	0	499,408	6,706,334	
	94	37,084	8,838,789	1,580,295	10,456,168	2,507	54,939	100,155	19,360	0	176,961	11,668,954	
	88	NA	NA	NA	NA	NA	NA	995,810	31,135	1,000	NA	NA	
Lead	96	209,065,669	89,267	2,403,298	211,558,234	36,000,051	5,320	2,016,537	19,579	189,780	38,231,267	255,641,888	
	95	211,398,723	49,836	1,716,276	213,164,835	63,275,977	6,469	1,677,977	20,327	760	64,981,510	281,754,384	
	94	119,686,070	72,187	1,236,916	120,995,173	56,055,348	12,515	710,963	28,297	200,000	57,007,123	170,455,619	
	88	NA	NA	NA	NA	NA	NA	2,901,988	122,508	254,573	NA	NA	
Lead compounds	96	396,430,669	0	1,350,570	397,781,239	283,323,678	68,985	12,061,469	27,932	538,834	296,020,898	752,768,994	
	95	501,675,271	0	28,909,640	530,584,911	291,908,760	62,461	5,813,316	38,036	1,257,760	299,080,333	861,699,138	
	94	529,552,647	0	25,904,461	555,457,108	296,946,451	72,421	5,384,260	61,251	21,250	302,485,633	892,011,110	
	88	NA	NA	NA	NA	NA	NA	2,254,991	91,167	680,019	NA	NA	
Lindane	96	371	0	0	371	0	0	1,388	0	0	1,388	2,031	
	95	326	0	0	326	0	0	3,197	0	0	3,197	3,804	
	94	344	0	0	344	0	0	2,462	5	0	2,467	1,358	
	88	NA	NA	NA	NA	NA	NA	130	0	0	NA	NA	
Maleic anhydride	96	6,847	3,333,330	36,712,857	40,053,034	7,307	98,199	1,311,988	3,017	0	1,420,511	42,033,547	
	95	4,940	3,222,121	38,357,136	41,584,197	0	102,756	1,142,938	10,660	0	1,256,354	43,186,754	
	94	3,585	2,616,255	30,265,310	32,885,150	750	140,204	881,930	4,813	0	1,027,697	34,166,072	
	88	NA	NA	NA	NA	NA	NA	1,725,648	556,373	1,150	NA	NA	
Maneb	96	0	0	0	0	0	0	1,108	0	0	1,108	1,322	
	95	525	0	0	525	0	5	6,500	0	0	6,505	17,189	
	94	956	0	30	986	0	0	1,698	0	0	1,698	3,321	
	88	NA	NA	NA	NA	NA	NA	2,077	1,470	0	NA	NA	
Manganese	96	32,636,249	0	371,283	33,007,532	90,014,975	36,070	1,314,531	72,506	40,863	91,478,945	133,772,704	
	95	31,576,342	0	172,660	31,749,002	68,216,519	345	1,387,885	75,627	750	69,681,126	125,812,908	
	94	27,204,672	0	346,024	27,550,696	71,853,235	900	481,453	53,334	2,293,473	74,682,395	118,946,464	
	88	NA	NA	NA	NA	NA	NA	4,208,789	132,683	3,506,111	NA	NA	
Manganese compounds	96	134,562,338	21,216	899,859	135,483,413	52,316,073	223,482	6,349,936	323,137	20,000	59,232,628	263,481,976	
	95	149,594,893	0	995,502	150,590,395	50,102,271	196,541	3,927,517	325,542	520,320	55,072,191	282,983,315	
	94	83,535,732	0	448,995	83,984,727	51,769,536	45,052	3,948,329	402,382	5	56,165,304	200,727,123	
	88	NA	NA	NA	NA	NA	NA	1,376,268	1,843,549	423,308	NA	NA	

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Total On-site Releases	Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Transfers Off-site to Disposal			
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds					Off-site Releases Pounds		
7439-97-6	Mercury	96	10,144	4,037	468	0	537	15,186	4,272	19,458	
		95	8,689	4,466	192	0	1,016	14,363	6,103	20,466	
		94	7,745	3,424	175	0	1,351	12,695	12,590	25,285	
		88	15,791	7,114	1,397	0	13,279	37,581	218,830	256,411	
—	Mercury compounds	96	2,011	905	73	9	0	2,998	21,612	24,610	
		95	2,009	1,147	136	6	0	3,298	201,972	205,270	
		94	2,012	704	151	7	0	2,874	26,121	28,995	
		88	1,006	1,370	9	27	0	2,412	17,133	19,545	
67-56-1	Methanol	96	27,987,712	178,370,259	7,353,977	24,300,488	1,931,665	239,944,101	1,411,828	241,355,929	
		95	30,527,851	184,446,778	8,744,922	27,732,642	1,642,777	253,094,970	1,956,755	255,051,725	
		94	31,855,868	183,181,548	10,892,290	25,093,326	2,591,219	253,614,251	2,313,539	255,927,790	
		88	48,119,910	211,331,593	17,128,114	26,587,686	11,911,136	315,078,439	15,291,235	330,369,674	
72-43-5	* Methoxychlor	96	10	15	0	0	0	25	0	25	
		95	0	0	0	0	0	0	0	0	
		94	5	5	0	0	0	10	0	10	
		88	47,721	83,310	252	0	258	131,541	8	131,549	
109-86-4	2-Methoxyethanol	96	115,723	749,517	11,672	0	0	876,912	489	877,401	
		95	147,418	705,410	12,407	0	5	865,240	285	865,525	
		94	160,528	464,427	15,898	0	20	640,873	58,369	699,242	
		88	1,148,256	4,751,413	40,520	750	7	5,940,946	57,362	5,998,308	
96-33-3	Methyl acrylate	96	70,888	116,348	8,145	147	162	195,690	32,136	227,826	
		95	71,308	172,606	5,962	159	0	250,035	865	250,900	
		94	93,969	165,346	480	95	89	259,979	6,318	266,297	
		88	332,710	110,786	1,687	200	30,260	475,643	4,765	480,408	
1634-04-4	Methyl tert-butyl ether	96	952,626	2,170,463	103,615	177,174	26,568	3,430,446	243,220	3,673,666	
		95	931,449	2,361,051	78,554	15,238	3,799	3,390,091	47,841	3,437,932	
		94	937,468	2,197,131	92,140	29,645	2,225	3,258,609	117,753	3,376,362	
		88	617,340	1,970,907	21,499	14,400	370	2,624,516	4,602	2,629,118	
101-14-4	4,4'-Methylenebis (2-chloroaniline)	96	251	255	0	0	750	1,256	5	1,261	
		95	250	10	0	0	0	260	5	265	
		94	10	10	0	0	0	20	1,300	1,320	
		88	250	0	0	0	0	250	0	250	
101-61-1	4,4'-Methylenebis-(N,N-dimethyl) benzeneamine	96	0	1	0	0	0	1	0	1	
		95	5	5	0	0	0	10	0	10	
		94	No reports received								
		88	250	0	0	0	7,000	7,250	1,150	8,400	
74-95-3	Methylene bromide	96	85,043	14,249	0	0	0	99,292	0	99,292	
		95	22,539	40,552	0	0	0	63,091	0	63,091	
		94	36,765	35,080	0	5,700	0	77,545	0	77,545	
		88	34,468	23,255	0	0	0	57,723	0	57,723	
101-77-9	4,4'-Methylene-dianiline	96	8,227	1,535	23	41,120	0	50,905	19,591	70,496	
		95	8,546	1,791	63	23,110	0	33,510	9,673	43,183	
		94	6,669	3,073	725	26,064	0	36,531	4,103	40,634	
		88	36,804	93,461	2,599	460,250	1,140	594,254	141,538	735,792	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

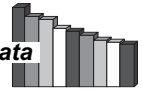


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production- related Waste Pounds
Mercury	96	803,882	0	4,114	807,996	23,748	0	6,586	5	0	30,339	860,054
	95	919,909	0	6,307	926,216	58,206	0	11,589	19	871	70,685	1,013,276
	94	838,500	0	11,065	849,565	21,223	0	3,807	10	0	25,040	898,285
	88	NA	NA	NA	NA	NA	NA	38,548	1,364	0	NA	NA
Mercury compounds	96	46,348	0	1	46,349	2,000	500	7,855	10	0	10,365	79,595
	95	125,287	0	0	125,287	0	505	5,150	5	0	5,660	155,583
	94	90,242	0	0	90,242	3,690	0	49	5	0	3,744	122,769
	88	NA	NA	NA	NA	NA	NA	256	528	0	NA	NA
Methanol	96	537,583,324	331,508,259	950,729,426	1,819,821,009	17,478,098	90,419,383	37,230,842	81,631,668	13	226,760,004	2,290,480,930
	95	492,685,076	366,619,613	952,409,011	1,811,713,700	23,230,686	94,697,025	31,480,405	89,876,995	109,611	239,394,722	2,308,772,421
	94	537,196,179	340,464,428	926,310,614	1,803,971,221	16,371,121	76,670,657	32,373,837	95,365,543	0	220,781,158	2,297,772,873
	88	NA	NA	NA	NA	NA	NA	40,029,552	121,263,646	3,570,258	NA	NA
Methoxychlor	96	0	0	0	0	0	0	1,250	0	0	1,250	818
	95	0	0	0	0	0	0	0	0	0	0	0
	94	0	0	0	0	0	0	5	0	0	5	16
	88	NA	NA	NA	NA	NA	NA	6,551	0	0	NA	NA
2-Methoxyethanol	96	1,704,300	146,744	2,181,353	4,032,397	11,084	1,304,325	97,388	741,640	0	2,154,437	7,042,511
	95	3,925,200	240,658	3,353,957	7,519,815	0	1,916,061	126,573	1,076,268	0	3,118,902	11,492,979
	94	2,297,809	532,775	4,596,214	7,426,798	4,300	1,628,616	201,086	1,131,051	0	2,965,053	11,051,353
	88	NA	NA	NA	NA	NA	NA	826,153	622,102	715	NA	NA
Methyl acrylate	96	1,010,001	908,315	1,479,300	3,397,616	10,018	313,548	79,773	15,322	0	418,661	4,042,978
	95	910,001	736,924	2,134,388	3,781,313	40,769	184,341	92,773	23,261	0	341,144	4,374,845
	94	940,001	161,043	1,382,130	2,483,174	25,098	358,071	98,412	3,260	0	484,841	3,238,381
	88	NA	NA	NA	NA	NA	NA	14,040	14,886	0	NA	NA
Methyl tert-butyl ether	96	1,693,888	807,055	2,525,427	5,026,370	283,774	1,853,551	604,850	253,430	0	2,995,605	12,689,501
	95	847,718	228,033	2,884,118	3,959,869	32,986	1,361,095	422,145	101,520	0	1,917,746	9,296,983
	94	238,880	661,761	3,313,924	4,214,565	17,434	923,399	546,944	95,945	0	1,583,722	9,235,476
	88	NA	NA	NA	NA	NA	NA	93,575	7,713	0	NA	NA
4,4'-Methylenebis-(2-chloroaniline)	96	0	0	0	0	0	2,494	11,299	5	0	13,798	13,633
	95	720	0	36	756	0	2,017	10,684	5	0	12,706	13,010
	94	720	0	75	795	0	5,848	2,389	5	0	8,242	10,083
	88	NA	NA	NA	NA	NA	NA	6,250	0	0	NA	NA
4,4'-Methylenebis-(N,N-dimethyl) benzeneamine	96	0	0	0	0	0	0	0	0	0	0	1
	95	0	0	0	0	0	0	0	0	0	0	10
	94	No reports received			NA	NA	NA	0	0	0	NA	NA
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Methylene bromide	96	1,211,800	0	270	1,212,070	0	0	0	0	0	0	1,311,362
	95	677,059	0	51,903	728,962	0	0	0	979	0	979	792,225
	94	2,000,000	0	97,228	2,097,228	6,200	1,300	250	1,114	0	8,864	2,183,572
	88	NA	NA	NA	NA	NA	NA	0	6,097	0	NA	NA
4,4'-Methylene-dianiline	96	2,900	52,414	83,357	138,671	0	2,235	55,191	2,023	0	59,449	263,947
	95	2,300	17,801	87,919	108,020	0	17,264	92,309	2,026	0	111,599	256,155
	94	1,900	92,806	50,125	144,831	0	6,295	174,060	1,889	0	182,244	362,444
	88	NA	NA	NA	NA	NA	NA	139,349	7,399	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds					Transfers Off-site to Disposal Pounds	
78-93-3	Methyl ethyl ketone	96	20,641,669	38,426,835	74,989	432,772	139,598	59,715,863	247,023	59,962,886
		95	25,026,991	44,718,128	65,520	556,607	87,856	70,455,102	217,811	70,672,913
		94	27,584,056	52,002,109	108,385	575,848	38,168	80,308,566	432,013	80,740,579
		88	41,981,304	99,116,021	92,076	255,955	166,597	141,611,953	5,014,725	146,626,678
60-34-4	Methyl hydrazine	96	250	250	0	0	0	500	0	500
		95	250	250	0	0	0	500	0	500
		94	278	260	0	0	0	538	0	538
		88	2,774	153	1	0	0	2,928	1,450	4,378
74-88-4	Methyl iodide	96	20,141	45,084	0	23,500	0	88,725	3,300	92,025
		95	20,747	871	0	10,000	0	31,618	8,600	40,218
		94	30,383	11	0	0	0	30,394	2,450	32,844
		88	5,691	3,253	5	250	0	9,199	250	9,449
108-10-1	Methyl isobutyl ketone	96	4,570,658	14,312,039	22,569	162,000	4,858	19,072,124	35,672	19,107,796
		95	5,632,099	16,147,952	51,292	158,600	7,041	21,996,984	86,316	22,083,300
		94	6,873,386	18,571,736	80,177	131,600	12,201	25,669,100	75,549	25,744,649
		88	13,049,874	18,985,959	762,108	116,650	31,770	32,946,361	1,966,238	34,912,599
624-83-9	Methyl isocyanate	96	1,116	373	0	0	0	1,489	0	1,489
		95	1,344	314	0	0	0	1,658	0	1,658
		94	18,730	1,005	0	0	0	19,735	0	19,735
		88	9,649	586	0	0	64	10,299	8,400	18,699
80-62-6	Methyl methacrylate	96	507,244	1,332,648	2,551	160,000	1,072	2,003,515	107,184	2,110,699
		95	587,582	1,397,414	2,172	120,000	1,056	2,108,224	217,267	2,325,491
		94	645,184	1,799,162	4,664	120,000	69	2,569,079	356,283	2,925,362
		88	1,346,194	2,284,375	28,437	327,220	8,119	3,994,345	276,567	4,270,912
90-94-8	Michler's ketone	96	No reports received							
		95	0	1,577	0	0	0	1,577	0	1,577
		94	0	814	0	0	0	814	0	814
		88	450	650	0	0	0	1,100	0	1,100
1313-27-5	Molybdenum trioxide	96	159,992	36,366	28,004	209,900	71,653	505,915	628,643	1,134,558
		95	135,886	46,901	63,555	333,730	85,442	665,514	1,013,638	1,679,152
		94	140,505	37,066	60,848	161,340	71,814	471,573	389,855	861,428
		88	37,672	73,523	139,021	197,115	97,238	544,569	573,624	1,118,193
505-60-2	Mustard gas	96	0	0	0	0	0	0	0	0
		95	No reports received							
		94	No reports received							
		88	No reports received							
91-20-3	* Naphthalene	96	1,281,814	1,576,524	11,737	285,877	301,513	3,457,465	576,597	4,034,062
		95	1,317,092	1,323,405	43,311	33,569	32,090	2,749,467	474,106	3,223,573
		94	1,502,159	1,311,249	28,557	88,200	47,014	2,977,179	496,501	3,473,680
		88	3,424,748	1,740,678	22,518	50,946	123,697	5,362,587	1,359,184	6,721,771
134-32-7	alpha-Naphthyl-amine	96	0	0	0	0	0	0	0	0
		95	0	0	0	0	0	0	0	0
		94	5	5	0	0	0	10	0	10
		88	336	254	101	0	0	691	0	691

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

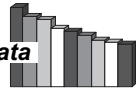


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site T ransfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Methyl ethyl ketone	96	61,050,421	92,654,090	68,944,661	222,649,172	20,101,826	37,076,309	4,887,309	598,327	70,490	62,734,261	350,937,478
	95	66,080,000	112,447,288	69,359,019	247,886,307	20,676,316	42,619,807	5,883,761	502,492	5,830	69,688,206	388,842,410
	94	66,166,777	99,848,117	62,563,008	228,577,902	22,251,090	46,566,320	6,215,882	410,996	1,000	75,445,288	386,256,481
	88	NA	NA	NA	NA	NA	NA	22,189,902	964,168	2,063,186	NA	NA
Methyl hydrazine	96	0	0	44	44	0	0	5	0	0	5	429
	95	0	0	20	20	0	0	5	0	0	5	425
	94	0	0	500	500	0	0	863	0	0	863	1,401
	88	NA	NA	NA	NA	NA	NA	1,250	0	0	NA	NA
Methyl iodide	96	0	1,900	341	2,241	0	0	27	0	0	27	94,229
	95	0	140	19,376	19,516	0	0	760	0	0	760	60,463
	94	0	160	180	340	0	250	250	0	0	500	33,633
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Methyl isobutyl ketone	96	52,337,198	20,171,448	13,243,777	85,752,423	12,107,396	17,968,462	1,233,056	299,154	2,013	31,610,081	139,241,590
	95	52,704,238	26,719,664	17,795,698	97,219,600	16,296,708	18,211,033	1,503,755	398,672	3,866	36,414,034	156,105,242
	94	54,886,123	37,411,855	16,642,751	108,940,729	17,960,367	18,858,606	1,661,585	488,749	4,022	38,973,329	172,657,005
	88	NA	NA	NA	NA	NA	NA	6,075,272	1,509,030	2,467,760	NA	NA
Methyl isocyanate	96	0	0	91,617	91,617	0	0	3,007	0	0	3,007	96,100
	95	0	0	66,939	66,939	0	0	0	0	0	0	68,597
	94	0	0	71,030	71,030	0	0	0	0	0	0	90,761
	88	NA	NA	NA	NA	NA	NA	314	0	0	NA	NA
Methyl methacrylate	96	4,567,223	2,367,486	4,635,442	11,570,151	58,074	1,328,264	211,404	229,373	0	1,827,115	15,528,946
	95	4,665,497	2,050,094	5,218,371	11,933,962	20,750	1,437,140	458,692	255,983	0	2,172,565	16,345,705
	94	4,667,970	3,020,865	2,970,916	10,659,751	22,185	1,342,473	723,917	285,764	0	2,374,339	15,969,194
	88	NA	NA	NA	NA	NA	NA	2,787,477	191,071	37,511	NA	NA
Michler's ketone	96	No reports received										
	95	0	0	0	0	0	436	0	0	0	436	2,013
	94	0	0	0	0	0	145	0	0	0	145	1,144
	88	NA	NA	NA	NA	NA	NA	33,519	0	0	NA	NA
Molybdenum trioxide	96	6,529,490	0	31,277	6,560,767	2,736,322	3,276	360,880	63,951	0	3,164,429	11,204,989
	95	6,243,774	0	19,964	6,263,738	2,495,746	3,530	220,729	60,213	0	2,780,218	10,617,804
	94	5,571,077	0	13,950	5,585,027	2,984,416	0	326,967	62,262	0	3,373,645	9,831,702
	88	NA	NA	NA	NA	NA	NA	7,336	34,044	20,000	NA	NA
Mustard gas	96	0	0	0	0	0	0	0	0	0	0	0
	95	No reports received										
	94	No reports received										
	88	No reports received										
Naphthalene	96	12,512,289	5,184,798	142,338,479	160,035,566	248,539	3,380,659	797,683	23,965	2,800	4,453,646	168,190,422
	95	10,946,885	5,220,914	16,633,226	32,801,025	296,695	1,875,387	1,121,640	18,209	0	3,311,931	39,175,942
	94	16,696,301	6,052,030	7,601,983	30,350,314	435,645	1,201,639	560,103	22,421	0	2,219,808	35,853,786
	88	NA	NA	NA	NA	NA	NA	536,139	800,227	31,000	NA	NA
alpha-Naphthyl- amine	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	94	0	0	0	0	0	0	0	0	0	0	2
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds	Total On-site Releases Pounds	Transfers Off-site to Disposal Pounds	
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
7440-02-0	Nickel	96	256,602	125,211	28,163	4,225	260,666	674,867	3,480,910	4,155,777
		95	142,710	183,202	24,692	6,370	370,869	727,843	2,948,350	3,676,193
		94	438,211	145,909	31,496	7,080	389,400	1,012,096	3,334,751	4,346,847
		88	270,257	182,000	90,386	14,295	1,225,251	1,782,189	6,425,642	8,207,831
—	Nickel compounds	96	78,907	246,069	60,646	86,278	3,698,922	4,170,822	4,757,894	8,928,716
		95	108,278	154,268	53,279	107,886	2,363,360	2,787,071	5,645,254	8,432,325
		94	105,713	133,984	67,724	55,861	1,364,254	1,727,536	5,199,060	6,926,596
		88	155,735	117,282	132,233	224,968	2,384,332	3,014,550	3,910,015	6,924,565
7697-37-2	Nitric acid	96	628,830	2,453,528	221,434	17,483,972	176,491	20,964,255	1,477,976	22,442,231
		95	649,742	1,670,051	46,591	18,755,717	236,033	21,358,134	4,818,362	26,176,496
		94	667,544	1,775,622	167,504	18,269,660	510,050	21,390,380	3,537,114	24,927,494
		88	1,111,293	7,166,891	1,380,565	25,485,680	1,330,695	36,475,124	7,929,318	44,404,442
139-13-9	Nitritriacetic acid	96	10	0	78	1,500	0	1,588	0	1,588
		95	1	0	34	2,900	0	2,935	0	2,935
		94	8	5	2,748	500	0	3,261	0	3,261
		88	1,000	1,500	5,100	0	5,100	12,700	250	12,950
99-59-2	5-Nitro-o-anisidine	96	5	5	0	0	0	10	0	10
		95	5	5	0	0	0	10	0	10
		94	5	5	0	0	0	10	0	10
		88	No reports received							
98-95-3	Nitrobenzene	96	23,351	15,888	951	193,527	46	233,763	3,825	237,588
		95	17,106	8,377	874	330,344	43	356,744	961	357,705
		94	34,194	6,762	1,999	815,285	226	858,466	2,290	860,756
		88	22,616	18,663	7,283	819,000	3,538	871,100	69,570	940,670
55-63-0	Nitroglycerin	96	1,439	21,027	18,508	0	3,781	44,755	3,610	48,365
		95	1,678	24,399	13,300	0	0	39,377	0	39,377
		94	1,842	34,233	11,544	0	0	47,619	6	47,625
		88	2,280	50,103	2,746	0	11,640	66,769	2	66,771
88-75-5	2-Nitrophenol	96	5	28	51	0	0	84	90	174
		95	5	33	50	0	0	88	0	88
		94	0	18	67	0	0	85	0	85
		88	32,152	1,537	1	0	2	33,692	13,100	46,792
100-02-7 *	4-Nitrophenol	96	890	45	0	0	0	935	0	935
		95	910	35	0	0	0	945	0	945
		94	920	81	0	0	0	1,001	3	1,004
		88	7,642	213	0	6,300	7	14,162	70	14,232
79-46-9	2-Nitropropane	96	19,226	15,062	2,790	0	0	37,078	0	37,078
		95	21,057	10,208	3,000	0	0	34,265	0	34,265
		94	22,842	14,381	3,300	0	0	40,523	0	40,523
		88	208,303	181,082	4,300	257,000	0	650,685	4,785	655,470
62-75-9	N-Nitrosodimethyl-amine	96	No reports received							
		95	No reports received							
		94	No reports received							
		88	0	0	0	0	0	0	0	0

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide



Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Nickel	96	34,302,930	16,476	996,941	35,316,347	73,839,083	70,582	2,060,315	86,328	3,650	76,059,958	116,797,060
	95	38,109,558	127	1,546,633	39,656,318	74,608,906	1,348	788,853	81,257	516	75,480,880	120,203,518
	94	42,963,374	0	1,507,253	44,470,627	78,093,672	3,057	1,141,452	96,522	9,930	79,344,633	132,276,475
	88	NA	NA	NA	NA	NA	NA	1,178,986	252,701	279,905	NA	NA
Nickel compounds	96	8,360,348	37,998	2,719,330	11,117,676	25,082,239	1,379	864,624	93,795	8,651	26,050,688	60,211,166
	95	14,062,245	0	5,627,326	19,689,571	32,722,124	5,841	1,226,740	100,876	755	34,056,336	63,764,851
	94	20,805,120	0	6,323,439	27,128,559	33,072,512	1,034	1,543,496	123,675	0	34,740,717	68,491,797
	88	NA	NA	NA	NA	NA	NA	1,886,744	652,442	217,385	NA	NA
Nitric acid	96	24,081,964	165,558	269,641,370	293,888,892	2,610,233	346	11,575,491	3,851,407	25,118	18,062,595	333,654,906
	95	53,735,834	250,245	248,606,746	302,592,825	3,472,782	255	11,289,777	4,585,207	23,808	19,371,829	349,605,792
	94	34,802,605	23,000	264,650,252	299,475,857	3,238,193	3	10,934,203	3,435,700	0	17,608,099	342,099,085
	88	NA	NA	NA	NA	NA	NA	18,442,846	22,432,957	48,202	NA	NA
Nitritotriacetic acid	96	0	0	1,017,756	1,017,756	0	0	0	18,000	0	18,000	1,037,344
	95	2,500	0	969,141	971,641	0	0	1,872	0	0	1,872	976,448
	94	1,840	0	398,169	400,009	0	0	2,080	0	0	2,080	405,350
	88	NA	NA	NA	NA	NA	NA	190,753	254,859	0	NA	NA
5-Nitro-o-anisidine	96	0	0	0	0	0	0	0	5	0	5	5
	95	0	0	0	0	0	0	0	5	0	5	5
	94	0	0	0	0	0	0	0	5	0	5	0
	88	No reports received										
Nitrobenzene	96	3,552,450	1,781,334	1,146,945	6,480,729	0	20,703	599,215	116	0	620,034	7,336,665
	95	3,677,200	1,479,583	1,297,715	6,454,498	0	77,514	627,862	219	0	705,595	7,525,649
	94	4,190,550	2,131,609	1,035,708	7,357,867	3,603	24,351	458,135	289	0	486,378	8,699,337
	88	NA	NA	NA	NA	NA	NA	1,301,075	5,671	750	NA	NA
Nitroglycerin	96	18,000	0	315,442	333,442	0	36,584	15,809	217	0	52,610	424,506
	95	24,151	0	428,538	452,689	0	35,138	21,914	203	0	57,255	551,674
	94	14,210	0	303,371	317,581	38,586	0	92,713	263	0	131,562	471,272
	88	NA	NA	NA	NA	NA	NA	3,581	53	0	NA	NA
2-Nitrophenol	96	0	53,000	75,000	128,000	0	0	20,900	47	0	20,947	149,179
	95	0	28,000	120,000	148,000	0	6	24,011	58	0	24,075	171,400
	94	0	0	348,379	348,379	0	0	20,189	180	0	20,369	369,453
	88	NA	NA	NA	NA	NA	NA	1,600	149,000	0	NA	NA
4-Nitrophenol	96	0	12,990	60,000	72,990	0	1	476,030	169	0	476,200	549,931
	95	0	10,469	65,000	75,469	0	3	574,817	176	0	574,996	651,222
	94	0	0	73,000	73,000	0	0	583,000	186	0	583,186	657,000
	88	NA	NA	NA	NA	NA	NA	0	560,428	0	NA	NA
2-Nitropropane	96	0	0	58,297	58,297	0	50	12,467	0	0	12,517	107,890
	95	0	140,000	63,028	203,028	520	314	0	0	0	834	237,652
	94	0	1,584	79,484	81,068	3,300	1,779	29	0	0	5,108	126,474
	88	NA	NA	NA	NA	NA	NA	8,910	3,000	0	NA	NA
N-Nitrosodimethyl- amine	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).

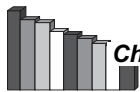


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases	
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases	Transfers Off-site to Disposal		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions							Pounds
86-30-6	N-Nitrosodiphenylamine	96	10	0	0	0	0	10	0	10	
		95	10	0	0	0	0	10	0	10	
		94	0	0	0	0	0	0	0	0	0
		88	0	0	27	34,000	0	34,027	0	34,027	
156-10-5	p-Nitrosodiphenylamine	96	24	0	0	0	0	24	420	444	
		95	24	0	0	0	0	24	520	544	
		94	24	0	0	0	0	24	0	24	
		88	15	0	0	2,000	0	2,015	180	2,195	
59-89-2	N-Nitrosomorpholine	96	0	0	0	0	0	0	0	0	
		95	0	0	0	0	0	0	0	0	
		94	No reports received								
		88	No reports received								
56-38-2	* Parathion	96	0	0	0	0	0	0	0	0	
		95	0	0	0	0	0	0	0	0	
		94	1,142	5	0	0	0	1,147	15,027	16,174	
		88	2,258	1,007	750	0	250	4,265	3,959	8,224	
87-86-5	* Pentachlorophenol	96	8,164	4,977	8,236	0	3,000	24,377	196,075	220,452	
		95	1,825	4,441	3,146	0	250	9,662	23,942	33,604	
		94	4,511	17,112	1,458	0	250	23,331	24,343	47,674	
		88	8,133	5,896	2,465	20,000	3,717	40,211	518,105	558,316	
79-21-0	* Peracetic acid	96	960	10,595	5	0	812	12,372	0	12,372	
		95	998	6,849	15	0	582	8,444	0	8,444	
		94	693	5,148	15	0	270	6,126	0	6,126	
		88	766	4,687	55	0	0	5,508	0	5,508	
108-95-2	* Phenol	96	2,456,348	7,096,154	72,555	2,045,370	159,059	11,829,486	1,016,261	12,845,747	
		95	2,352,099	6,934,596	70,419	3,823,235	171,609	13,351,958	1,280,771	14,632,729	
		94	2,532,937	5,986,787	121,480	3,224,053	172,240	12,037,497	1,584,155	13,621,652	
		88	4,544,746	6,167,990	259,230	4,661,319	1,882,485	17,515,770	2,536,030	20,051,800	
106-50-3	p-Phenylenediamine	96	3,416	564	409	0	1,308	5,697	0	5,697	
		95	3,466	974	856	0	653	5,949	0	5,949	
		94	2,845	2,098	1,260	0	2,624	8,827	0	8,827	
		88	2,210	111,680	826	4,716	0	119,432	64,452	183,884	
90-43-7	* 2-Phenylphenol	96	55	4,052	1	0	250	4,358	1,789	6,147	
		95	61	27,002	10	0	5	27,078	5,656	32,734	
		94	7,784	35,223	15	0	2	43,024	1,507	44,531	
		88	9,010	1,620	480	0	0	11,110	250	11,360	
75-44-5	Phosgene	96	6,635	9,648	0	5	0	16,288	0	16,288	
		95	7,802	8,092	0	5	0	15,899	0	15,899	
		94	7,726	7,950	0	5	0	15,681	0	15,681	
		88	3,839	17,764	500	250	0	22,353	480	22,833	
7664-38-2	* Phosphoric acid	96	196,086	851,959	28,367,233	9,716	31,460,721	60,885,715	2,331,930	63,217,645	
		95	439,393	814,110	20,402,951	7,340	35,898,123	57,561,917	2,045,261	59,607,178	
		94	284,442	752,955	20,900,639	45,616	58,985,481	80,969,133	2,603,268	83,572,401	
		88	727,787	1,235,954	122,647,164	53,711	52,615,971	177,280,587	5,303,543	182,584,130	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

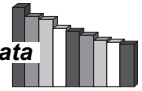


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production- related Waste Pounds
N-Nitrosodiphenyl- amine	96	0	0	47,762	47,762	0	230,000	120,000	0	0	350,000	397,772
	95	0	0	0	0	0	0	337,000	0	0	337,000	340,010
	94	0	0	0	0	0	0	200,000	0	0	200,000	200,000
	88	NA	NA	NA	NA	NA	NA	300	0	0	NA	NA
p-Nitrosodiphenyl- amine	96	0	9,400	0	9,400	0	17,000	180	0	0	17,180	27,024
	95	0	8,600	0	8,600	0	15,000	65	0	0	15,065	24,209
	94	0	9,100	0	9,100	0	16,000	0	0	0	16,000	25,124
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
N-Nitroso- morpholine	96	0	0	0	0	0	0	23,600	0	0	23,600	24,000
	95	0	0	0	0	0	0	0	0	0	0	0
	94	No reports received										
	88	No reports received										
Parathion	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	94	0	0	0	0	0	0	1,035	0	0	1,035	17,518
	88	NA	NA	NA	NA	NA	NA	1,321	0	0	NA	NA
Pentachlorophenol	96	1,232,965	11,754	22,743	1,267,462	2,971	8,875	67,358	611	0	79,815	1,551,847
	95	1,888,603	9,151	6,780	1,904,534	360	14,354	49,742	900	0	65,356	2,032,895
	94	105,705	0	42,203	147,908	250	24,982	44,970	1,798	0	72,000	297,533
	88	NA	NA	NA	NA	NA	NA	27,568	4,728	0	NA	NA
Peracetic acid	96	0	0	4,160	4,160	0	0	7,300	2,664	0	9,964	26,290
	95	13,833	0	12,884	26,717	0	0	10,300	2,396	0	12,696	47,440
	94	21,060	0	84,180	105,240	0	0	0	2,138	0	2,138	113,126
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Phenol	96	40,787,213	27,483,437	25,790,593	94,061,243	120,652	3,787,203	3,556,740	3,280,289	0	10,744,884	117,406,441
	95	41,534,425	28,593,814	34,275,169	104,403,408	380,614	3,728,168	3,235,121	3,771,514	2,500	11,117,917	129,424,375
	94	38,572,804	19,384,426	33,732,420	91,689,650	494,671	3,383,588	2,916,629	2,968,474	500	9,763,862	115,362,112
	88	NA	NA	NA	NA	NA	NA	3,668,466	6,046,640	328,571	NA	NA
p-Phenylenediamine	96	0	0	303,611	303,611	0	0	22,030	5,850	0	27,880	339,489
	95	0	0	364,868	364,868	0	0	16,312	4,150	0	20,462	390,707
	94	0	43,000	915,974	958,974	0	0	23,968	3,600	0	27,568	995,278
	88	NA	NA	NA	NA	NA	NA	53,471	6,277	0	NA	NA
2-Phenylphenol	96	0	92	705,215	705,307	0	0	250	24,662	0	24,912	732,897
	95	0	530	1,027,544	1,028,074	0	0	0	3,626	0	3,626	1,062,729
	94	0	110	423,403	423,513	0	0	121	3,537	0	3,658	470,013
	88	NA	NA	NA	NA	NA	NA	0	6,400	0	NA	NA
Phosgene	96	0	200	17,249,349	17,249,549	0	0	2,270	0	0	2,270	17,268,049
	95	0	430,034	15,138,316	15,568,350	0	0	2,414	0	0	2,414	15,586,631
	94	0	380	14,086,721	14,087,101	0	0	158	0	0	158	14,101,558
	88	NA	NA	NA	NA	NA	NA	1,040	0	0	NA	NA
Phosphoric acid	96	310,993,398	8,300	117,388,358	428,390,056	7,460,279	72,379	1,835,400	2,745,535	750	12,114,343	503,562,424
	95	216,200,620	14,792	353,698,632	569,914,044	11,427,354	61,289	1,843,577	3,411,362	250	16,743,832	642,804,823
	94	207,308,181	12,000	388,288,677	595,608,858	9,473,740	45,269	2,215,316	3,881,545	505	15,616,375	673,564,806
	88	NA	NA	NA	NA	NA	NA	3,270,219	13,846,442	743,381	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases					Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds		Transfers Off-site to Disposal Pounds	
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
7723-14-0	Phosphorus (yellow or white)	96	24,359	1,577	255	0	2,057,524	2,083,715	19,839	2,103,554
		95	22,588	6,033	3,661	0	1,871,801	1,904,083	23,650	1,927,733
		94	27,686	4,148	9,391	0	1,705,016	1,746,241	13,767	1,760,008
		88	9,049	11,559	11,322	0	3,893,674	3,925,604	195,013	4,120,617
85-44-9	Phthalic anhydride	96	59,978	367,260	174	0	0	427,412	103,707	531,119
		95	74,240	530,376	711	0	674	606,001	76,916	682,917
		94	98,631	331,535	362	0	0	430,528	105,924	536,452
		88	126,906	423,003	1,040	0	1,265	552,214	3,976,682	4,528,896
88-89-1	Picric acid	96	0	0	0	94,031	0	94,031	0	94,031
		95	219	2	0	49,256	0	49,477	0	49,477
		94	2	2	2	43,958	2	43,966	0	43,966
		88	251	1	251	1,362,180	250	1,362,933	0	1,362,933
—	Polybrominated biphenyls	96	0	250	0	0	0	250	375	625
		95	0	0	0	0	0	0	0	0
		94	0	0	0	0	0	0	250	250
		88	250	0	0	0	0	250	0	250
1336-36-3	Polychlorinated biphenyls (PCBs)	96	5	250	0	0	9,205	9,460	51,086	60,546
		95	0	0	0	0	0	0	34,432	34,432
		94	0	0	0	0	0	0	94,962	94,962
		88	6	0	10	0	752	768	488,732	489,500
1120-71-4	Propane sulfone	96	0	0	0	0	0	0	0	0
		95	0	0	0	0	0	0	0	0
		94	0	0	0	0	0	0	0	0
		88	0	0	0	0	0	0	0	0
123-38-6	Propionaldehyde	96	76,050	94,958	32,077	74,613	0	277,698	62	277,760
		95	82,023	133,118	27,012	101,432	0	343,585	0	343,585
		94	337,833	146,634	21	66,352	0	550,840	26,948	577,788
		88	399,253	868,586	1,156	930	0	1,269,925	0	1,269,925
114-26-1	* Propoxur	96	0	0	0	0	0	0	0	0
		95	0	5	0	0	0	5	0	5
		94	0	4	0	0	0	4	31	35
		88	250	0	0	0	0	250	250	500
115-07-1	Propylene	96	10,546,131	15,859,826	7,133	0	2,458	26,415,548	2,181	26,417,729
		95	11,358,424	16,221,476	4,047	0	169	27,584,116	298	27,584,414
		94	12,762,146	9,079,043	4,635	0	0	21,845,824	269	21,846,093
		88	18,647,105	13,594,694	10,003	0	0	32,251,802	3,320	32,255,122
75-55-8	Propyleneimine	96	366	36	0	0	0	402	0	402
		95	564	36	0	0	0	600	0	600
		94	216	265	0	0	0	481	0	481
		88	250	250	0	0	0	500	0	500
75-56-9	* Propylene oxide	96	226,160	354,701	45,393	12,141	335	638,730	39,230	677,960
		95	345,822	498,174	29,934	22,577	4,403	900,910	8,633	909,543
		94	356,231	740,955	12,695	22,195	6,151	1,138,227	48,801	1,187,028
		88	896,638	2,783,577	112,503	1,113,780	11,630	4,918,128	16,626	4,934,754

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide



Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Phosphorus (yellow or white)	96	300	0	610,526	610,826	110,484	0	21,916	272	0	132,672	2,864,362
	95	1,091	0	5,052	6,143	26,059	0	147,492	505	0	174,056	2,108,747
	94	1,208	0	39,006	40,214	183,473	0	55,407	258	0	239,138	2,010,517
	88	NA	NA	NA	NA	NA	NA	14,074	646	946	NA	NA
Phthalic anhydride	96	90,881	2,098,212	12,577,144	14,766,237	475	4,814,622	241,672	149,891	0	5,206,660	20,539,607
	95	421,574	2,420,922	18,689,501	21,531,997	1,261	4,951,064	335,251	51,793	0	5,339,369	27,599,067
	94	527,847	2,152,095	18,908,160	21,588,102	2,781	4,342,281	243,593	9,483	0	4,598,138	26,553,835
	88	NA	NA	NA	NA	NA	NA	2,877,574	53,441	21,803	NA	NA
Picric acid	96	0	136,931	1,779,450	1,916,381	0	0	21,015	0	0	21,015	2,031,427
	95	0	53,393	1,261,618	1,315,011	0	2	0	0	0	2	1,364,490
	94	0	387,228	285,129	672,357	0	13	836	0	0	849	717,172
	88	NA	NA	NA	NA	NA	NA	14,000	0	0	NA	NA
Polybrominated biphenyls	96	0	0	0	0	4,219	0	0	0	0	4,219	4,724
	95	0	0	0	0	2,720	0	0	0	0	2,720	2,720
	94	0	0	0	0	0	0	0	0	0	0	899
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Polychlorinated biphenyls (PCBs)	96	0	0	0	0	59,972	250	243,194	0	0	303,416	52,237
	95	0	0	0	0	0	0	645,345	0	0	645,345	72,736
	94	0	0	0	0	0	0	934,464	0	0	934,464	181,185
	88	NA	NA	NA	NA	NA	NA	5,149,843	250	23,550	NA	NA
Propane sulfone	96	0	0	4	4	0	0	0	0	0	0	4
	95	0	0	16	16	0	0	0	0	0	0	16
	94	0	0	0	0	0	0	0	0	0	0	0
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Propionaldehyde	96	0	255,989	4,446,808	4,702,797	0	18,135	9	320,765	0	338,909	5,319,755
	95	0	898,697	2,348,789	3,247,486	0	5,565	36	87,484	0	93,085	3,679,694
	94	0	667,541	1,069,325	1,736,866	0	12,994	1	1,760	0	14,755	2,326,064
	88	NA	NA	NA	NA	NA	NA	1,600	761	0	NA	NA
Propoxur	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	1,500	250	250	2,000	1,085
	94	0	0	0	0	0	0	1,805	140	0	1,945	1,977
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Propylene	96	60,407,279	567,598,551	302,585,973	930,591,803	0	215,250	272,632	6,315	250	494,447	957,526,443
	95	6,713,304	487,153,246	254,049,252	747,915,802	0	3,132,286	80,240	5	0	3,212,531	778,768,655
	94	190,030,400	643,226,119	246,950,683	1,080,207,202	0	2,159,280	280,113	5	0	2,439,398	1,103,464,417
	88	NA	NA	NA	NA	NA	NA	1,521,069	500	0	NA	NA
Propyleneimine	96	0	0	1,734	1,734	0	0	0	0	0	0	2,136
	95	0	0	1,433	1,433	0	0	0	0	0	0	2,033
	94	0	0	1,748	1,748	0	0	0	0	0	0	2,133
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
Propylene oxide	96	3,780,004	18,451,509	13,284,599	35,516,112	255	250,033	1,871	206,725	0	458,884	36,848,356
	95	3,091	17,981,778	14,366,911	32,351,780	0	281,155	36,882	350,949	0	668,986	33,966,184
	94	11,716	2,874,364	13,870,297	16,756,377	66	5,164	6,148	374,871	4	386,253	18,088,342
	88	NA	NA	NA	NA	NA	NA	1,091	386,355	35	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds				
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds							
110-86-1	Pyridine	96	47,611	43,568	908	428,000	1	520,088	775	520,863	
		95	64,172	35,332	830	453,900	4	554,238	321	554,559	
		94	70,153	36,301	1,409	358,200	0	466,063	1,201	467,264	
		88	143,881	107,918	2,158	491,775	1,125	746,857	40,699	787,556	
91-22-5	Quinoline	96	12,053	10,921	20	32,000	466	55,460	5,072	60,532	
		95	7,537	3,875	20	13,000	405	24,837	3,744	28,581	
		94	7,665	19,757	35	63,000	571	91,028	5,054	96,082	
		88	31,633	17,717	502	0	896	50,748	6,242	56,990	
106-51-4	Quinone	96	3,801	3,304	500	0	0	7,605	0	7,605	
		95	3,800	3,301	1,500	0	0	8,601	0	8,601	
		94	9,900	2,101	1,600	0	0	13,601	0	13,601	
		88	4,600	6,700	140	0	0	11,440	0	11,440	
82-68-8	* Quinoline	96	1,550	1,061	0	0	836	3,447	0	3,447	
		95	914	510	0	0	800	2,224	192	2,416	
		94	1,771	787	0	0	0	2,558	161	2,719	
		88	750	314	0	0	0	1,064	12,625	13,689	
81-07-2	Saccharin (manufacturing)	96	210	33	0	0	0	243	1,200	1,443	
		95	90	9	0	0	0	99	1,500	1,599	
		94	60	20	0	0	0	80	1,400	1,480	
		88	250	500	0	0	0	750	750	1,500	
94-59-7	Safrole	96	500	5	0	0	0	505	0	505	
		95	250	5	0	0	0	255	0	255	
		94	No reports received								
		88	250	250	0	0	0	500	0	500	
7782-49-2	Selenium	96	5	40	97	0	29	171	784	955	
		95	5	1,445	92	0	23	1,565	25	1,590	
		94	88	367	113	0	7	575	20	595	
		88	2,251	14,031	1,168	0	127,508	144,958	2,617	147,575	
—	Selenium compounds	96	1,986	45,278	2,404	3,100	211,237	264,005	61,491	325,496	
		95	2,680	58,766	2,184	3,640	219,133	286,403	73,959	360,362	
		94	3,576	50,984	2,470	3,410	278,924	339,364	25,229	364,593	
		88	2,251	12,255	250	3,400	45,750	63,906	61,116	125,022	
7440-22-4	* Silver	96	6,261	1,947	149	0	6,306	14,663	21,736	36,399	
		95	6,223	3,070	161	0	250	9,704	8,397	18,101	
		94	7,052	3,648	176	250	270	11,396	3,958	15,354	
		88	11,480	36,508	1,654	0	39,510	89,152	3,263	92,415	
—	Silver compounds	96	3,016	13,375	8,147	370	45,693	70,601	10,132	80,733	
		95	2,282	13,642	6,284	380	30,425	53,013	2,492	55,505	
		94	2,732	15,367	6,580	140	28,843	53,662	10,462	64,124	
		88	5,991	9,415	8,684	250	11,550	35,890	3,139	39,029	
100-42-5	Styrene	96	10,917,192	31,011,969	12,864	228,317	266,690	42,437,032	3,251,349	45,688,381	
		95	12,181,207	28,944,513	4,570	209,945	147,921	41,488,156	4,255,354	45,743,510	
		94	13,932,696	26,545,550	54,884	250,861	227,778	41,011,769	4,301,253	45,313,022	
		88	12,959,020	21,326,995	59,069	165	242,941	34,588,190	2,011,796	36,599,986	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

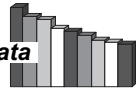


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Pyridine	96	7,426,653	1,278,558	886,200	9,591,411	31,550	260,552	252,608	355,442	0	900,152	11,009,790
	95	5,974,830	1,713,719	348,352	8,036,901	14,008	185,968	190,110	291,689	0	681,775	9,272,661
	94	1,791,787	2,109,851	404,033	4,305,671	4,178	129,674	177,365	350,839	0	662,056	5,431,533
	88	NA	NA	NA	NA	NA	NA	56,729	275,083	0	NA	NA
Quinoline	96	15,881	34,652	91,001	141,534	2,180	34,429	17,015	255	0	53,879	255,277
	95	1,750	302,003	222,705	526,458	2,243	251	16,365	250	0	19,109	572,024
	94	2,168	280,592	51,342	334,102	4,178	7,500	38,602	260	0	50,540	478,080
	88	NA	NA	NA	NA	NA	NA	4,945	6,406	0	NA	NA
Quinone	96	0	230,508	366,115	596,623	0	0	50,513	0	0	50,513	654,741
	95	0	179,870	130,500	310,370	0	1,328	30,173	0	0	31,501	350,472
	94	0	9,868	130,000	139,868	0	0	26,186	0	0	26,186	180,055
	88	NA	NA	NA	NA	NA	NA	280	250	0	NA	NA
Quintozene	96	884	0	0	884	0	221,410	398,894	4	0	620,308	624,210
	95	863	0	0	863	0	0	759,393	88	0	759,481	762,701
	94	6,328	13,000	17	19,345	0	0	543,692	1,012	0	544,704	565,034
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
Saccharin (manufacturing)	96	0	0	12,000	12,000	0	0	0	12	0	12	13,512
	95	0	0	9,700	9,700	0	0	0	10	0	10	11,310
	94	0	0	10,000	10,000	0	0	0	10	0	10	11,529
	88	NA	NA	NA	NA	NA	NA	0	7,900	0	NA	NA
Safrole	96	0	0	4	4	0	0	0	134	0	134	234
	95	0	0	1	1	0	0	0	5	0	5	6
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
Selenium	96	0	0	29	29	0	755	12,119	405	0	13,279	14,099
	95	1,604	0	23	1,627	4,604	0	1,200	2,276	0	8,080	10,026
	94	0	0	0	0	28,325	0	1,200	15	0	29,540	30,124
	88	NA	NA	NA	NA	NA	NA	3,145	1,250	500	NA	NA
Selenium compounds	96	601,563	0	0	601,563	133,241	4,700	32,979	21	8,464	179,405	1,100,414
	95	590,805	0	2	590,807	158,278	19	49,393	288	0	207,978	1,106,541
	94	343,313	0	0	343,313	136,856	255	31,492	307	0	168,910	873,271
	88	NA	NA	NA	NA	NA	NA	1,631	1,860	0	NA	NA
Silver	96	541,588	0	26,366	567,954	1,647,173	0	3,481	388	7	1,651,049	1,391,508
	95	563,576	0	87,462	651,038	1,378,373	1	6,416	142	0	1,384,932	1,920,661
	94	330,239	0	99,763	430,002	855,546	13	36,779	596	0	892,934	1,262,704
	88	NA	NA	NA	NA	NA	NA	23,875	3,624	0	NA	NA
Silver compounds	96	638,500	0	3,967,716	4,606,216	1,408,111	0	32,081	2,260	250	1,442,702	5,976,018
	95	327,846	0	3,966,504	4,294,350	1,000,476	0	22,365	2,069	0	1,024,910	5,396,624
	94	291,857	0	2,958,879	3,250,736	1,492,721	0	5,876	2,808	16,232	1,517,637	4,739,314
	88	NA	NA	NA	NA	NA	NA	8,986	8,078	2,830	NA	NA
Styrene	96	19,962,598	21,544,063	15,021,756	56,528,417	1,154,843	7,704,571	2,798,362	264,473	900	11,923,149	113,542,563
	95	9,297,615	20,674,599	14,031,180	44,003,394	652,462	9,047,200	3,938,713	118,840	1,000	13,758,215	103,087,135
	94	7,612,033	27,512,188	12,924,097	48,048,318	1,433,692	5,469,504	4,039,222	117,912	5	11,060,335	103,307,046
	88	NA	NA	NA	NA	NA	NA	5,696,394	479,835	1,260,446	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds				
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds							
96-09-3	Styrene oxide	96	7	24	0	0	0	31	0	31	
		95	1	12	0	0	0	13	0	13	
		94	6	84	0	0	0	90	0	90	
		88	511	1,803	0	0	0	2,314	750	3,064	
79-34-5	1,1,2,2-Tetrachloroethane	96	12,638	2,850	130	0	0	15,618	7	15,625	
		95	4,904	3,371	2,222	0	0	10,497	7	10,504	
		94	10,227	2,257	1,517	26	0	14,027	52	14,079	
		88	25,904	17,961	1,903	0	29	45,797	128,750	174,547	
127-18-4	Tetrachloroethylene	96	3,095,666	4,765,504	1,311	13,436	30,442	7,906,359	22,071	7,928,430	
		95	4,588,748	4,950,002	2,407	20,481	6	9,561,644	72,961	9,634,605	
		94	4,894,036	5,712,830	3,877	4,051	4,349	10,619,143	74,980	10,694,123	
		88	16,335,782	19,786,515	33,314	72,250	82,144	36,310,005	1,385,378	37,695,383	
961-11-5	* Tetrachlorvinphos	96	110	255	5	0	0	370	2,030	2,400	
		95	20	606	5	0	0	631	4,200	4,831	
		94	15	398	5	0	0	418	2,948	3,366	
		88	250	1	0	0	0	251	9,270	9,521	
7440-28-0	Thallium	96	No reports received								
		95	5	250	0	0	755	1,010	0	1,010	
		94	5	250	0	0	755	1,010	0	1,010	
		88	No reports received								
—	Thallium compounds	96	0	0	0	0	0	0	0	0	
		95	No reports received								
		94	163	8	0	0	3,695	3,866	5	3,871	
		88	1	252	0	0	250	503	1,000	1,503	
62-55-5	Thioacetamide	96	No reports received								
		95	No reports received								
		94	No reports received								
		88	250	250	0	0	0	500	0	500	
62-56-6	Thiourea	96	1,093	119	339	5,000	250	6,801	2,590	9,391	
		95	872	758	1,487	5,000	250	8,367	4,269	12,636	
		94	1,155	2,017	3,539	5,000	250	11,961	2,572	14,533	
		88	1,504	500	16,951	5,940	750	25,645	2,303	27,948	
1314-20-1	Thorium dioxide	96	0	1	0	0	0	1	0	1	
		95	0	1	0	0	0	1	0	1	
		94	0	0	0	0	0	0	0	0	
		88	230	1,350	0	0	0	1,580	677,549	679,129	
7550-45-0	Titanium tetrachloride	96	21,080	9,771	0	0	0	30,851	34,013	64,864	
		95	15,877	4,422	0	0	0	20,299	32,282	52,581	
		94	16,051	6,298	0	0	0	22,349	150	22,499	
		88	38,614	40,054	0	0	1,400	80,068	0	80,068	
108-88-3	Toluene	96	41,711,487	83,670,741	68,697	329,275	557,160	126,337,360	1,022,535	127,359,895	
		95	52,433,574	93,577,558	53,291	310,691	85,798	146,460,912	881,153	147,342,065	
		94	58,505,358	111,884,283	82,778	490,840	180,247	171,143,506	951,120	172,094,626	
		88	106,246,178	193,156,221	196,957	1,473,666	643,668	301,716,690	9,615,791	311,332,481	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

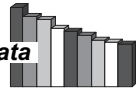


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Management Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery		Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Management Pounds	Total Production-related Waste Pounds
							Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds				
Styrene oxide	96	0	35,337	0	35,337	0	861	0	0	0	861	36,230
	95	0	35,337	0	35,337	0	0	0	0	0	0	35,350
	94	23	35,337	0	35,360	0	884	0	0	0	884	36,330
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
1,1,2,2-Tetrachloroethane	96	4,808,000	924,000	11,024,249	16,756,249	2,380,211	0	248,014	90	0	2,628,315	19,400,145
	95	6,200,000	846,600	13,754,898	20,801,498	2,233,342	880	150,072	0	0	2,384,294	23,196,547
	94	4,740,000	958,000	8,551,216	14,249,216	2,227,120	0	40,807	0	0	2,267,927	16,530,040
	88	NA	NA	NA	NA	NA	NA	74,982	400	0	NA	NA
Tetrachloroethylene	96	46,710,867	2,647,705	20,674,831	70,033,403	5,822,463	530,548	1,440,050	1,847	0	7,794,908	85,970,037
	95	46,322,863	8,622,647	26,279,022	81,224,532	6,622,064	780,737	2,192,750	14,997	75,924	9,686,472	100,619,857
	94	54,725,520	11,881,690	21,513,333	88,120,543	7,456,148	857,453	2,062,148	62,059	250	10,438,058	109,883,260
	88	NA	NA	NA	NA	NA	NA	4,059,045	558,691	138,270	NA	NA
Tetrachlorvinphos	96	615	0	1,020	1,635	0	44,900	3,885	0	0	48,785	52,662
	95	330	0	1,020	1,350	0	47,000	4,230	0	0	51,230	56,988
	94	16,075	3	0	16,078	0	21,100	19,104	7	0	40,211	59,201
	88	NA	NA	NA	NA	NA	NA	40,210	2	0	NA	NA
Thallium	96	No reports received										
	95	688,093	0	0	688,093	3,852	0	190	5	0	4,047	692,166
	94	27,482	0	0	27,482	5,040	0	250	5	0	5,295	32,167
	88	No reports received										
Thallium compounds	96	0	0	0	0	0	0	5	0	0	5	10
	95	No reports received										
	94	0	0	0	0	0	0	0	0	0	0	3,865
	88	NA	NA	NA	NA	NA	NA	250	6	0	NA	NA
Thioacetamide	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	250	0	0	NA	NA
Thiourea	96	4,665	0	664	5,329	0	0	11,073	254	0	11,327	31,767
	95	7,082	0	18,535	25,617	0	0	11,917	761	0	12,678	48,136
	94	0	0	3,860	3,860	0	0	1,821	1,860	0	3,681	19,787
	88	NA	NA	NA	NA	NA	NA	2,511	26,634	0	NA	NA
Thorium dioxide	96	22,000	0	0	22,000	0	0	0	2,200	0	2,200	24,200
	95	26,000	0	0	26,000	0	0	0	2,600	0	2,600	28,601
	94	0	0	0	0	0	0	0	0	0	0	0
	88	NA	NA	NA	NA	NA	NA	0	250	0	NA	NA
Titanium tetrachloride	96	0	0	26,706,771	26,706,771	136,039	1	166,720	0	0	302,760	27,074,252
	95	0	0	23,836,598	23,836,598	129,787	0	2,914	0	0	132,701	24,021,959
	94	0	0	23,244,683	23,244,683	3,500	0	317,482	0	0	320,982	23,587,693
	88	NA	NA	NA	NA	NA	NA	1,667,045	0	0	NA	NA
Toluene	96	968,269,305	187,671,839	395,302,542	1,551,243,686	22,885,031	79,191,567	22,051,736	599,828	60,979	124,789,141	1,816,226,231
	95	1,006,140,873	214,676,316	214,503,254	1,435,320,443	24,390,666	76,581,609	20,733,577	850,357	5,168	122,561,377	1,701,961,019
	94	975,483,694	248,371,338	131,360,050	1,355,215,082	24,116,181	80,639,446	21,906,681	899,650	7,112	127,569,070	1,645,649,122
	88	NA	NA	NA	NA	NA	NA	47,861,093	3,593,521	4,662,390	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).

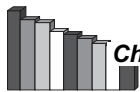


Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases					Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds			
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds						
584-84-9	Toluene-2,4-diisocyanate	96	3,247	4,086	0	0	192	7,525	3,586	11,111
		95	3,666	4,139	0	0	0	7,805	611	8,416
		94	9,705	25,736	0	0	0	35,441	3,523	38,964
		88	46,634	118,428	0	0	1,040	166,102	36,178	202,280
91-08-7	Toluene-2,6-diisocyanate	96	6,262	7,404	0	0	48	13,714	897	14,611
		95	984	2,060	0	0	0	3,044	153	3,197
		94	3,019	5,484	0	0	0	8,503	935	9,438
		88	153,253	338,939	0	0	510	492,702	9,444	502,146
95-53-4	o-Toluidine	96	8,997	8,584	260	17,450	10	35,301	1,401	36,702
		95	9,597	3,229	256	22,140	12	35,234	55	35,289
		94	9,823	3,765	534	30,300	6	44,428	302	44,730
		88	19,196	27,726	1,902	250	5,024	54,098	670	54,768
52-68-6 *	Trichlorfon	96	0	0	0	0	0	0	0	0
		95	0	0	0	0	0	0	0	0
		94	5	2	9	0	0	16	19	35
		88	250	3	0	0	0	253	487	740
120-82-1	1,2,4-Trichlorobenzene	96	32,283	124,980	433	750	0	158,446	4,487	162,933
		95	31,221	137,269	259	12,500	0	181,249	41,648	222,897
		94	30,090	137,190	970	15,200	830	184,280	52,908	237,188
		88	438,009	1,094,904	31,628	7,408	3,073	1,575,022	164,144	1,739,166
71-55-6	1,1,1-Trichloroethane	96	4,339,326	4,428,210	844	1,354	26,303	8,796,037	34,031	8,830,068
		95	11,002,844	12,088,982	1,118	126	38,470	23,131,540	124,363	23,255,903
		94	20,302,319	18,436,204	2,283	102	2,350	38,743,258	186,024	38,929,282
		88	93,139,461	87,702,388	95,624	1,000	204,923	181,143,396	5,947,875	187,091,271
79-00-5	1,1,2-Trichloroethane	96	33,142	305,908	516	0	16	339,582	85	339,667
		95	38,919	241,428	870	0	0	281,217	84	281,301
		94	41,179	268,933	914	0	0	311,026	166	311,192
		88	618,608	1,122,834	5,303	0	89	1,746,834	19,810	1,766,644
79-01-6	Trichloroethylene	96	10,665,331	10,606,835	541	1,291	23,140	21,297,138	76,327	21,373,465
		95	12,375,423	13,667,466	1,477	550	3,577	26,048,493	57,670	26,106,163
		94	14,951,392	15,698,688	1,671	288	4,417	30,656,456	95,090	30,751,546
		88	26,168,376	29,775,360	13,801	390	21,186	55,979,113	1,466,469	57,445,582
95-95-4	2,4,5-Trichlorophenol	96	No reports received							
		95	No reports received							
		94	No reports received							
		88	1	90	0	0	0	91	20	111
88-06-2	2,4,6-Trichlorophenol	96	136	155	28	0	0	319	0	319
		95	135	26	210	0	0	371	0	371
		94	116	83	65	0	0	264	0	264
		88	0	250	50	12,000	0	12,300	10	12,310
1582-09-8 *	Trifluralin	96	11,153	4,453	87	0	310	16,003	51,678	67,681
		95	13,318	3,826	92	0	8,250	25,486	24,490	49,976
		94	15,715	3,253	6	0	250	19,224	23,116	42,340
		88	2,020	1,257	601	0	0	3,878	40,557	44,435

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

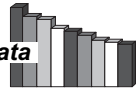


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
Toluene-2,4-diiso- cyanate	96	547	0	1,107	1,654	2,656	24,143	12,689	0	0	39,488	46,410
	95	427	37,664	3,311	41,402	1,400	23,160	11,636	0	0	36,196	84,238
	94	584	58,686	3,733	63,003	59,100	26,282	30,181	0	0	115,563	214,052
	88	NA	NA	NA	NA	NA	NA	193,439	500	3	NA	NA
Toluene-2,6-diiso- cyanate	96	137	0	150	287	7,081	3,065	11,151	0	0	21,297	42,840
	95	107	9,416	652	10,175	0	3,705	1,546	0	0	5,251	22,933
	94	99	14,672	833	15,604	8,922	6,232	1,489	0	0	16,643	52,589
	88	NA	NA	NA	NA	NA	NA	45,287	250	0	NA	NA
o-Toluidine	96	58	231,376	144,487	375,921	0	79,475	74,198	22,698	0	176,371	619,345
	95	49	95,623	94,846	190,518	0	139,297	107,218	20,406	0	266,921	492,577
	94	49	362,900	154,844	517,793	0	110,648	179,767	131,476	0	421,891	984,266
	88	NA	NA	NA	NA	NA	NA	31,500	15,172	0	NA	NA
Trichlorfon	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	94	70	0	211	281	0	0	174	0	0	174	481
	88	NA	NA	NA	NA	NA	NA	1,079	215	0	NA	NA
1,2,4-Trichloro- benzene	96	1,250,136	44,674	598,429	1,893,239	4,335	68,544	229,460	21,618	0	323,957	2,374,399
	95	40,745	2,400	1,137,925	1,181,070	10,541	107,929	345,503	82,831	0	546,804	1,876,411
	94	36,737	28,219	734,646	799,602	10,715	42,171	460,393	101,302	0	614,581	1,596,193
	88	NA	NA	NA	NA	NA	NA	734,243	262,676	0	NA	NA
1,1,1-Trichloro- ethane	96	39,529,212	860,823	1,184,611	41,574,646	1,441,519	338,734	1,023,362	10,318	0	2,813,933	52,924,903
	95	60,014,479	3,487,698	1,108,250	64,610,427	3,725,741	1,017,815	1,270,732	3,922	0	6,018,210	93,609,675
	94	71,998,974	4,231,763	1,045,943	77,276,680	7,026,161	1,849,346	2,322,122	6,454	72,131	11,276,214	126,983,394
	88	NA	NA	NA	NA	NA	NA	12,158,277	305,358	1,310,826	NA	NA
1,1,2-Trichloro- ethane	96	23,529,000	16,834,508	20,388,250	60,751,758	13,086,925	305,329	2,823,046	745	0	16,216,045	77,283,995
	95	18,699,000	12,061,000	24,559,416	55,319,416	11,918,217	200,626	3,251,456	9,000	0	15,379,299	70,877,737
	94	14,275,000	10,640,000	25,716,768	50,631,768	11,159,898	135,425	4,706,326	3,100	0	16,004,749	66,990,296
	88	NA	NA	NA	NA	NA	NA	239,032	750	1,000	NA	NA
Trichloroethylene	96	118,520,604	2,050,829	5,358,265	125,929,698	6,669,733	761,582	1,606,178	86,392	0	9,123,885	156,902,484
	95	154,222,220	2,514,155	5,218,927	161,955,302	8,570,263	1,166,015	1,042,803	15,073	0	10,794,154	199,585,656
	94	248,180,707	3,549,858	5,990,328	257,720,893	8,353,927	1,206,853	2,392,033	50,325	363,668	12,366,806	300,844,953
	88	NA	NA	NA	NA	NA	NA	4,693,074	85,652	360,514	NA	NA
2,4,5-Trichloro- phenol	96	No reports received										
	95	No reports received										
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
2,4,6-Trichloro- phenol	96	0	0	1,020,923	1,020,923	0	0	0	0	0	0	1,021,242
	95	0	0	1,294,115	1,294,115	0	0	0	0	0	0	1,294,486
	94	0	0	1,060,598	1,060,598	0	0	0	0	0	0	1,060,862
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Trifluralin	96	71,149	0	13,000	84,149	0	0	111,790	5	0	111,795	286,572
	95	2,107	0	99,980	102,087	0	5	82,914	5	500	83,424	233,348
	94	1,220	0	100,295	101,515	0	0	11,252	250	0	11,502	144,073
	88	NA	NA	NA	NA	NA	NA	149,989	371	0	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases						Off-site Releases	Total On- and Off-site Releases
			Air		Surface Water Discharges	Underground Injection	On-site Land Releases	Total On-site Releases		
			Fugitive or Nonpoint Air Emissions	Stack or Point Air Emissions					Transfers Off-site to Disposal	
			Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
95-63-6	1,2,4-Trimethylbenzene	96	2,752,443	4,667,587	9,570	2,697	29,947	7,462,244	135,485	7,597,729
		95	2,556,977	4,990,181	8,432	1,042	43,916	7,600,548	41,005	7,641,553
		94	2,628,405	5,309,194	9,171	187	14,957	7,961,914	58,889	8,020,803
		88	2,037,740	2,227,462	10,088	7,964	61,583	4,344,837	200,616	4,545,453
51-79-6	Urethane	96	496	12,042	0	0	0	12,538	3,675	16,213
		95	124	0	0	0	0	124	3,750	3,874
		94	11,050	0	0	0	0	11,050	4,274	15,324
		88	140,500	4,623	0	0	0	145,123	1,350	146,473
7440-62-2	Vanadium (fume or dust)	96	452	1,249	4	0	16	1,721	38,641	40,362
		95	1,397	3,952	5	0	31,222	36,576	17,463	54,039
		94	902	5,421	3,000	0	31,700	41,023	7,938	48,961
		88	3,145	14,033	4,704	0	87,296	109,178	91,559	200,737
108-05-4	Vinyl acetate	96	829,617	3,010,281	2,393	300,768	2,834	4,145,893	27,065	4,172,958
		95	1,074,152	3,030,400	8,269	783,829	1,717	4,898,367	41,783	4,940,150
		94	1,474,604	2,920,935	1,386	648,667	1,775	5,047,367	111,072	5,158,439
		88	1,470,618	4,616,879	10,021	2,109,851	18,889	8,226,258	21,811	8,248,069
593-60-2	Vinyl bromide	96	240	5,600	0	0	0	5,840	0	5,840
		95	43,460	11,470	0	0	0	54,930	0	54,930
		94	220	2,400	0	0	0	2,620	0	2,620
		88	4,000	950	400	0	0	5,350	0	5,350
75-01-4	Vinyl chloride	96	272,926	746,882	356	333	1	1,020,498	19,614	1,040,112
		95	322,618	722,047	525	33	1	1,045,224	15,645	1,060,869
		94	340,498	725,846	377	1	6	1,066,728	20,740	1,087,468
		88	421,882	1,017,307	2,051	53	4,409	1,445,702	4,555	1,450,257
75-35-4	Vinylidene chloride	96	82,672	94,525	216	0	1	177,414	33	177,447
		95	52,166	125,343	392	0	0	177,901	260	178,161
		94	35,324	130,372	215	0	0	165,911	2,031	167,942
		88	104,552	191,801	3,462	170	429	300,414	44,281	344,695
108-38-3	m-Xylene	96	450,550	525,195	635	45,239	93,377	1,114,996	3,275	1,118,271
		95	379,028	364,459	892	569	13,318	758,266	8,650	766,916
		94	691,696	289,548	893	250	2,708	985,095	150,720	1,135,815
		88	1,480,104	982,939	2,566	0	18,045	2,483,654	107,746	2,591,400
95-47-6	o-Xylene	96	680,963	550,970	2,503	4,760	88,876	1,328,072	4,611	1,332,683
		95	765,610	564,177	869	569	485	1,331,710	1,152	1,332,862
		94	910,532	492,003	1,148	250	2,959	1,406,892	7,030	1,413,922
		88	1,613,292	628,522	2,786	250	22,461	2,267,311	52,881	2,320,192
106-42-3	p-Xylene	96	839,254	1,997,026	477	1,010	88,804	2,926,571	1,114	2,927,685
		95	1,104,441	1,819,471	532	569	29,401	2,954,414	1,261	2,955,675
		94	808,402	2,612,682	9,690	250	587	3,431,611	3,295	3,434,906
		88	1,653,660	4,339,083	3,200	0	49,226	6,045,169	31,108	6,076,277
1330-20-7	* Xylene (mixed isomers)	96	20,296,828	62,388,723	39,902	132,971	58,951	82,917,375	499,478	83,416,853
		95	23,070,078	73,905,928	33,805	93,396	101,457	97,204,664	573,629	97,778,293
		94	26,115,298	84,673,110	44,078	313,711	243,345	111,389,542	868,326	112,257,868
		88	35,175,598	123,800,493	204,480	144,728	558,257	159,883,556	6,455,161	166,338,717

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. On-site Releases from Section 5 and Off-site Releases from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

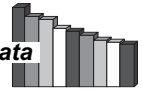


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
1,2,4-Trimethyl benzene	96	11,081,130	5,247,136	153,658,796	169,987,062	1,052,594	3,371,314	281,757	331,065	0	5,036,730	182,627,439
	95	12,135,506	4,669,750	26,125,744	42,931,000	1,072,018	2,933,728	333,459	195,328	0	4,534,533	55,524,929
	94	16,832,171	5,241,054	10,670,867	32,744,092	1,125,700	2,342,592	269,521	145,264	0	3,883,077	44,406,087
	88	NA	NA	NA	NA	NA	NA	330,046	501,717	41,463	NA	NA
Urethane	96	0	0	0	0	0	0	175	0	0	175	15,642
	95	0	0	0	0	0	0	0	1,165	0	1,165	5,907
	94	0	0	0	0	0	0	0	6,939	0	6,939	22,015
	88	NA	NA	NA	NA	NA	NA	3,558	260	0	NA	NA
Vanadium (fume or dust)	96	233,249	282	2,205	235,736	3,236	0	1,705	200	0	5,141	279,958
	95	164,454	217	0	164,671	5,618	0	7	310	0	5,935	267,595
	94	135,004	0	0	135,004	7,336	0	33,476	0	0	40,812	224,029
	88	NA	NA	NA	NA	NA	NA	1,858	0	0	NA	NA
Vinyl acetate	96	651,835	13,459,144	19,970,650	34,081,629	47,199	11,097,329	1,949,118	144,887	0	13,238,533	52,673,663
	95	311,385	15,379,353	19,205,133	34,895,871	533,326	6,534,074	8,913,415	274,652	0	16,255,467	56,361,995
	94	6,488,533	14,222,230	13,844,895	34,555,658	253,854	10,392,381	4,378,761	218,412	0	15,243,408	55,389,278
	88	NA	NA	NA	NA	NA	NA	354,698	2,319,733	20,015	NA	NA
Vinyl bromide	96	0	0	39	39	0	0	0	0	0	0	5,839
	95	0	0	36	36	0	0	0	0	0	0	54,946
	94	0	0	13	13	0	0	0	0	0	0	2,613
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Vinyl chloride	96	144,257,010	34,902,139	34,549,160	213,708,309	108,475	17,000	57,390	734	0	183,599	214,928,242
	95	118,321,038	23,368,507	40,034,145	181,723,690	134,144	20,853	58,973	308	0	214,278	182,942,803
	94	301,099,066	12,684,596	39,918,964	353,702,626	68,273	14,301	158,536	326	0	241,436	354,986,436
	88	NA	NA	NA	NA	NA	NA	669,044	17,104	2,188	NA	NA
Vinylidene chloride	96	1,540,000	81,000	5,944,435	7,565,435	26	45,180	36,107	90	0	81,403	7,919,564
	95	1,438,000	190,253	6,614,873	8,243,126	55	102,442	86,499	301	0	189,297	8,592,258
	94	400,000	16,000	9,393,764	9,809,764	140	250	223,917	287	0	224,594	10,200,106
	88	NA	NA	NA	NA	NA	NA	360,958	3,303	0	NA	NA
m-Xylene	96	1,413,683	130,969	159,029,986	160,574,638	44,221	56,722	101,754	7,046	8,100	217,843	161,921,893
	95	1,917,515	4,141,480	3,100,716	9,159,711	27,725	233,672	130,247	13,587	0	405,231	10,315,397
	94	609,436	4,422,579	771,485	5,803,500	30,875	45,869	8,847	3,331	0	88,922	7,024,513
	88	NA	NA	NA	NA	NA	NA	113,311	19,708	115	NA	NA
o-Xylene	96	90,138	14,825,694	96,322,096	111,237,928	192,724	781,724	509,146	424,692	0	1,908,286	114,697,510
	95	317,695	15,563,897	2,213,038	18,094,630	60,208	1,848,523	465,724	381,025	0	2,755,480	22,254,843
	94	423,414	37,094,809	1,394,758	38,912,981	51,482	2,555,757	265,893	61,941	0	2,935,073	43,345,283
	88	NA	NA	NA	NA	NA	NA	95,764	44,023	12,864	NA	NA
p-Xylene	96	195,330	521,427	73,929,099	74,645,856	4,462	21,639	115,168	2,325	0	143,594	77,696,140
	95	468,689	2,168,729	645,579	3,282,997	8,845	4,048	3,831	5,106	0	21,830	6,249,139
	94	763,332	1,670,795	379,950	2,814,077	2,105	19,608	3,669	1,457	0	26,839	6,252,518
	88	NA	NA	NA	NA	NA	NA	48,320	752	0	NA	NA
Xylene (mixed isomers)	96	110,754,065	146,026,399	81,266,575	338,047,039	43,676,875	68,512,589	7,986,520	487,905	8,590	120,672,479	561,418,451
	95	134,886,919	141,797,405	81,906,637	358,590,961	43,915,996	70,744,984	15,005,250	532,294	7,055	130,205,579	580,933,456
	94	124,458,050	175,633,688	60,730,962	360,822,700	40,062,229	76,344,656	8,707,862	645,862	6,755	125,767,364	598,733,979
	88	NA	NA	NA	NA	NA	NA	27,191,660	4,160,974	3,852,727	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).



Table 3-9. TRI On-site and Off-site Releases, by Chemical, 1988 and 1994-1996, Continued

CAS Number	Chemical	Year	On-site Releases					Total On-site Releases Pounds	Off-site Releases	Total On- and Off-site Releases Pounds	
			Air		Surface Water Discharges Pounds	Underground Injection Pounds	On-site Land Releases Pounds		Transfers Off-site to Disposal Pounds		
			Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds							
87-62-7	2,6-Xylydine	96	0	53	0	0	0	53	0	53	
		95	54	221	0	0	0	275	0	275	
		94	59	122	66	0	0	247	0	247	
		88	0	337	1,537	0	0	1,874	0	1,874	
7440-66-6	* Zinc (fume or dust)	96	633,707	1,001,365	12,062	0	6,799,886	8,447,020	2,477,827	10,924,847	
		95	744,226	1,272,522	53,260	0	6,403,941	8,473,949	3,528,326	12,002,275	
		94	758,961	886,234	28,123	5	8,462,321	10,135,644	2,273,314	12,408,958	
		88	1,944,168	1,511,769	849,544	140,010	25,617,365	30,062,856	29,642,266	59,705,122	
—	Zinc compounds	96	2,327,688	3,506,502	1,065,164	129,498	94,842,199	101,871,051	105,122,823	206,993,874	
		95	1,884,468	2,740,761	1,057,008	212,844	85,479,436	91,374,517	97,453,223	188,827,740	
		94	1,839,780	3,047,802	1,318,328	196,748	78,725,112	85,127,770	90,128,232	175,256,002	
		88	3,245,883	4,017,072	1,200,859	109,555	113,363,711	121,937,080	67,269,507	189,206,587	
12122-67-7	Zineb	96	0	0	0	0	0	0	0	0	
		95	0	0	0	0	0	0	0	0	
		94	No reports received								
		88	250	1,000	0	0	0	1,250	2,600	3,850	
—	Mixtures and other trade name products	96	17,641	14,424	1,030	0	27,618	60,713	16,780	77,493	
		95	126,289	207,905	3,171	0	0	337,365	4,400	341,765	
		94	194,941	43,069	23,120	0	3,442	264,572	11,498	276,070	
		88	628,029	2,822,591	59,210	0	16,099	3,525,929	10,661,927	14,187,856	
—	Trade secrets	96	500	255	0	0	0	755	0	755	
		95	250	5	0	0	0	255	0	255	
		94	0	470	0	0	0	470	0	470	
		88	0	0	0	0	0	0	0	0	
Total		96	276,183,228	819,229,878	45,144,135	118,222,387	299,979,550	1,558,759,178	265,005,866	1,823,765,044	
		95	304,738,454	886,521,836	35,918,865	139,908,494	272,424,588	1,639,512,237	255,777,935	1,895,290,172	
		94	351,433,000	928,852,817	39,794,843	114,135,765	289,341,251	1,723,557,676	259,228,230	1,982,785,906	
		88	680,928,993	1,499,933,328	164,551,386	161,969,132	459,114,111	2,966,496,950	386,461,584	3,352,958,534	

Note: Does not include delisted chemicals, chemicals added in 1990, 1991, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, and sulfuric acid. **On-site Releases** from Section 5 and **Off-site Releases** from Section 6 (off-site transfers to disposal) of Form R. Breakdown of Underground Injection and On-site Land Releases (for RCRA Subtitle C landfills) began in 1996 reporting year.

*Pesticide

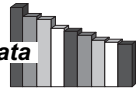


Table 3-9. TRI Other On-site Waste Management, Transfers Off-site for Further Waste Management, and Total Production-related Waste, 1988 and 1994-1996, Continued

Chemical	Year	Recycled On-site Pounds	Energy Recovery On-site Pounds	Treated On-site Pounds	Total On-site Waste Manage- ment Pounds	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Transfers to POTWs Pounds	Other Off-site Transfers Pounds	Total Off-site Waste Manage- ment Pounds	Total Production- related Waste Pounds
2,6-Xylidine	96	0	36,684	0	36,684	0	0	0	0	0	0	36,737
	95	0	8,000	303	8,303	0	0	22	236	0	258	8,786
	94	0	22,015	1,362	23,377	0	0	459	263	0	722	24,337
	88	NA	NA	NA	NA	NA	NA	0	0	0	NA	NA
Zinc (fume or dust)	96	25,204,044	0	2,192,517	27,396,561	63,284,353	48,635	7,925,233	18,590	47,444	71,324,255	110,397,651
	95	27,846,197	0	1,696,402	29,542,599	78,693,641	29,564	6,446,275	34,920	0	85,204,400	124,898,533
	94	20,042,768	0	2,214,523	22,257,291	81,773,312	146,891	689,740	38,623	250	82,648,816	118,220,791
	88	NA	NA	NA	NA	NA	NA	7,667,102	835,961	4,776,287	NA	NA
Zinc compounds	96	84,991,928	102,429	3,458,463	88,552,820	235,687,595	323,618	35,124,148	410,791	23,997	271,570,149	563,263,361
	95	130,617,139	446,100	4,159,476	135,222,715	229,346,855	397,948	10,929,317	576,717	84,100	241,334,937	567,599,634
	94	163,633,079	58,249	3,685,691	167,377,019	250,149,063	411,395	10,346,123	503,802	1,755,480	263,165,863	585,129,661
	88	NA	NA	NA	NA	NA	NA	16,971,970	1,577,974	1,455,138	NA	NA
Zineb	96	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	94	No reports received										
	88	NA	NA	NA	NA	NA	NA	250	0	0	NA	NA
Mixtures and other trade name products	96	0	0	34,000	34,000	538,881	1,000	0	11,900	2,618	554,399	685,593
	95	8,025	96,280,793	72,738,249	169,027,067	19,282	373,381	279,375	42,946	0	714,984	170,100,659
	94	313,923	259,823,536	27,855	260,165,314	16,656	981,824	74,132	2,149	1,450	1,076,211	261,493,601
	88	NA	NA	NA	NA	NA	NA	749,408	186,938	190,046	NA	NA
Trade secrets	96	0	0	0	0	0	0	750	2,379	0	3,129	2,630
	95	0	0	0	0	0	0	0	0	0	0	40
	94	1,600,000	0	166,452	1,766,452	597,825	750	0	0	0	598,575	2,365,127
	88	NA	NA	NA	NA	NA	NA	19,000	0	0	NA	NA
Total	96	6,209,509,900	2,585,785,910	5,246,425,791	14,041,721,601	2,094,268,207	446,487,845	248,020,028	141,995,045	3,078,759	2,933,849,884	18,891,598,534
	95	6,139,069,594	2,688,189,212	4,855,675,960	13,682,934,766	2,173,558,832	488,954,630	236,496,866	155,173,872	2,186,886	3,056,371,086	18,658,358,849
	94	6,518,368,024	3,138,177,326	4,566,261,474	14,222,806,824	2,200,760,073	459,576,125	221,230,371	159,934,847	5,094,462	3,046,595,878	19,232,528,369
	88	NA	NA	NA	NA	NA	NA	369,204,491	254,808,420	43,279,087	NA	NA

Note: Other On-site Waste Management from Section 8 and Transfers Off-site for Further Waste Management from Section 6 (excluding off-site transfers to disposal) of Form R. Other Off-site Transfers are transfers reported without valid waste management codes. Production-related Waste from Section 8 of Form R (total excludes remedial and catastrophic quantities).