
Chapter 5

**Toxics Release Inventory Data for
Original Reporting Industries**



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Toxics Release Inventory Data for Original Reporting Industries

This chapter provides an overview of 2000 TRI data by industry sector for the 20 industries that have been required to report to TRI since the program began in 1987. Analyses of TRI reporting by the industries added in 1998 appear in Chapter 4.

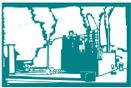
The chapter summarizes release and other waste management data by industry for 2000 and for 1995 to 2000. Change in on- and off-site releases is measured since 1988, and waste management data are reviewed for 1991 to 2000. The discussion in

Making Year-to-Year Comparisons of TRI Data in Chapter 1 is important for accurate interpretation of these data because of the significant changes in TRI over time.

Box 5-1 lists the original TRI industries by Standard Industrial Classification (SIC) code. Tables in this chapter also present data submitted on TRI chemical forms that report more than one SIC code in the manufacturing sector. Box 5-2 explains EPA's method for analyzing this "multiple-codes" group, as well as the "no-codes" group.

Box 5-1: Standard Industrial Classification (SIC) Codes for the Original TRI Industries

20	Food and kindred products Manufacture or processing of foods and beverages for human consumption, and related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.
21	Tobacco products Manufacture of cigarettes, cigars, smoking and chewing tobacco, snuff, and reconstituted tobacco. Stemming and redrying of tobacco. Manufacture of non-tobacco cigarettes.
22	Textile mill products Preparation of fiber and subsequent manufacture of yarn, thread, braids, twine, and cordage. Manufacture of broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn. Dyeing and finishing of fiber, yarn, fabrics, and knit apparel. Coating, waterproofing, or otherwise treating fabrics. Integrated manufacture of knit apparel and other finished articles from yarn. Manufacture of felt goods, lace goods, nonwoven fabrics, and miscellaneous textiles.
23	Apparel and other finished products made from fabrics and similar materials Production of clothing. Fabrication of products by cutting and sewing purchased woven or knit textile fabrics and related materials, such as leather, rubberized fabrics, plastics, and furs. Manufacture of clothing by cutting and joining (e.g., by adhesives) material such as paper and nonwoven textiles.
24	Lumber and wood products, except furniture Cutting timber and pulpwood. Also, merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood mills and veneer mills engaged in producing lumber and wood basic materials. Manufacture of finished articles made entirely or mainly of wood or related materials.
25	Furniture and fixtures Manufacture of household, office, public building, and restaurant furniture, and office and store fixtures.



Box 5-1: Standard Industrial Classification (SIC) Codes for the Original TRI Industries (continued)

- | | |
|----|---|
| 26 | <p>Paper and allied products
Manufacture of pulps from wood and other cellulose fibers and from rags. Manufacture of paper and paperboard. Manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes, and envelopes. Manufacture of bags from plastic film and sheet.</p> |
| 27 | <p>Printing, publishing, and allied industries
Printing by one or more common processes, such as letterpress, lithography (including offset), gravure, or screen. Bookbinding, platemaking, and other services performed for the printing trade. Publishing newspapers, books, and periodicals (whether or not the establishment also prints them).</p> |
| 28 | <p>Chemicals and allied products
Production of basic chemicals. Manufacture of products by predominantly chemical processes. There are three general classes of products: 1) basic chemicals, such as acids, alkalis, salts, and organic chemicals; 2) chemical products to be used in further manufacture, such as synthetic fibers, plastics materials, dry colors, and pigments; and 3) finished chemical products to be used for ultimate consumption, such as drugs, cosmetics, and soaps, or to be used as materials or supplies in other industries, such as paints, fertilizers, and explosives.</p> |
| 29 | <p>Petroleum refining and related industries
Production of gasoline, kerosene, distillate fuel oils, residual fuel oils, and lubricants, through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. (Establishments also produce aliphatic and aromatic chemicals as byproducts.)</p> |
| 30 | <p>Rubber and miscellaneous plastics products
Manufacture of products, not elsewhere classified, from plastics resins and from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta siak. Includes manufacture of tires.</p> |
| 31 | <p>Leather and leather products
Tanning, currying, and finishing hides and skins. Converting leather. Manufacture of finished leather and artificial leather products and some similar products made of other materials.</p> |
| 32 | <p>Stone, clay, glass, and concrete products
Manufacture of flat glass and other glass products, cement, structural clay products, pottery, concrete and gypsum products, cut stone, abrasive and asbestos products, and other products from materials taken principally from the earth in the form of stone, clay, and sand. (May include mining and quarrying activities operated by manufacturing establishments in this group.)</p> |
| 33 | <p>Primary metal industries
Smelting and refining ferrous and nonferrous metals from ore, pig, or scrap. Rolling, drawing, and alloying metals. Manufacture of castings and other basic metal products. Manufacture of nails, spikes, and insulated wire and cable. Includes production of coke.</p> |
| 34 | <p>Fabricated metal products, except machinery and transportation equipment
Fabrication of ferrous and nonferrous metal products, such as metal cans, tinware, handtools, cutlery, general hardware, non-electric heating apparatus, fabricated structural metal products, metal forgings, metal stampings, ordnance (except vehicles and guided missiles), and a variety of metal and wire products, not elsewhere classified.</p> |


Box 5-1: Standard Industrial Classification (SIC) Codes for the Original TRI Industries (continued)

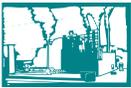
- 35 Industrial and commercial machinery and computer equipment
Manufacture of industrial and commercial machinery and equipment and computers. Manufacture of engines and turbines; farm and garden machinery; construction, mining, and oil field machinery; elevators and conveying equipment; hoists, cranes, monorails, and industrial trucks and tractors; metalworking machinery; special industry machinery; general industrial machinery; computer and peripheral equipment and office machinery; and refrigeration and service industry machinery.
- 36 Electronic and other electrical equipment and components, except computer equipment
Manufacture of machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. Manufacture of electricity distribution equipment, electrical industrial apparatus, household appliances, electrical lighting and wiring equipment, radio and television receiving equipment, communications equipment, electronic components and accessories, and other electrical equipment and supplies.
- 37 Transportation equipment
Manufacture of equipment for transportation of passengers and cargo by land, air, and water. Includes motor vehicles, aircraft, guided missiles and space vehicles, ships, boats, railroad equipment, and miscellaneous transportation equipment, such as motorcycles, bicycles, and snowmobiles.
- 38 Measuring, analyzing, and controlling instruments, photographic, medical, and optical goods; watches and clocks
Manufacture of instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; hydrological, hydrographic, meteorological, and geophysical equipment; search, detection, navigation, and guidance systems and equipment; surgical, medical, and dental instruments, equipment, and supplies; ophthalmic goods; photographic equipment and supplies; and watches and clocks.
- 39 Miscellaneous manufacturing industries
Manufacture of products not classified in any other major manufacturing group. Includes jewelry, silverware, and plated ware; musical instruments; dolls, toys, games, and sporting and athletic goods; pens, pencils, and artists' materials; buttons, costume novelties, and miscellaneous notions; brooms and brushes; caskets; and other miscellaneous products.

Source: Executive Office of the President, Office of Management and Budget, *Standard Industrial Classification Manual*, 1987.

Box 5-2: Multiple SIC Codes and No SIC Codes

Multiple Codes 20–39. TRI facilities may report up to six four-digit SIC codes that describe their operations. If all the processes or operations that are associated with a facility's releases or other waste management of a TRI chemical can be described by one SIC code, then only one SIC code is reported on the form. If several economic activities, designated by different SIC codes, describe the specific operations at a facility that are associated with releases or other waste management of a TRI chemical, then the facility will report those SIC codes (up to six) on the form it submits for that chemical.

Industrial facilities often conduct interrelated operations. They may, for example, manufacture distinct products using common or related feedstocks. Such products may be classified in similar but separate categories in the Standard Industrial Classification (SIC) system. Thus, many forms submitted to TRI contain more than one industrial classification. When TRI data are analyzed by industry—that is, by SIC code—forms that report more than one SIC code must be categorized separately because they do not fall into the individual industry groups.



Box 5-2: Multiple SIC Codes and No SIC Codes (*continued*)

The “multiple-codes” category represents forms that report in more than one two-digit SIC code within the manufacturing sector (SIC codes 20–39). For example, a facility may refine petroleum (SIC code 29) and then use that feedstock in the manufacture of chemicals (SIC code 28); it will report on its TRI forms SIC codes in both these industries—for example, SIC codes 2911, petroleum refining, and 2869, industrial organic chemicals. On forms with more than one SIC code, any SIC code that is not within manufacturing (that is, not within the SIC code range 20 to 39) is ignored when assigning a form to an industry category. For example, a form with SIC codes 2642 (manufacture of envelopes) and 5112 (wholesale trade—stationery and office supplies) would be included in SIC code 26.

Forms that have a SIC code within the manufacturing sector as well as a SIC code within the new industry sectors are included in the manufacturing sector SIC code if the facility reported to TRI before 1998. If the facility reported for the first time for 1998 with both original and new industry SIC codes, it is not included in the analyses in this chapter but is included in the analyses in Chapter 4 under the new industry code.

No Codes 20–39. Forms that report no SIC code within the manufacturing sector and have no SIC code belonging to a new industry group are included in these tables under the “No codes 20–39” category. Such forms may include, for example, submissions by federal facilities, all of which are required to report regardless of the SIC code covering their operations. This group also includes forms with no valid SIC code.

Chapter 2 presents a comparison of the reporting by the original industries with that of the new industries. In this chapter, total releases include all transfers to disposal as reported by the subset of TRI facilities that reported within the original industries. In Chapter 2, when presenting reporting by all TRI facilities, total releases on- and off-site do not include transfers to disposal sent to other TRI facilities that reported the amount as an on-site release. Some TRI facilities transfer off-site chemicals in waste to other TRI facilities for disposal on-site. When comparing all TRI facilities, such transfers are omitted to avoid counting the amounts twice, once as a transfer and once as an on-site release. (See Box 1-8 in Chapter 1 and Box 2-1 in Chapter 2 for an explanation and calculation of this duplication of off-site transfers to disposal.) Most of these transfers are from manufacturing facilities in the original industry sectors to hazardous waste facilities, a new industry sector. Therefore, such transfers are not omitted in the separate analyses of the original industries in this chapter.

TRI DATA BY INDUSTRY, 2000

In 2000, a total of 21,352 facilities in the original TRI industries submitted 74,131 forms, as shown in Table 5-1. The chemical manufacturing industry submitted the largest number of forms, 20,974. The

fabricated metals industry ranked second, with 7,825 forms, followed by the primary metals industry, with 7,241 forms. Together, these three industries submitted nearly half (48.6 percent) of the forms for 2000 from the original industries covered by TRI.

On- and Off-site Releases, 2000

On- and off-site releases by the original industries totaled just under 2.37 billion pounds in 2000, and two industries, primary metals and chemical manufacturing, reported more than half of that total. As shown in Table 5-2, the primary metals industry reported 664.0 million pounds of total releases, and the chemical manufacturing industry reported 661.1 million pounds. These amounts represented 28.1 percent and 27.9 percent, respectively, of all on- and off-site releases reported by the original industries, as illustrated in Figure 5-1. The paper products industry ranked third for total on- and off-site releases, with 227.4 million pounds, or 9.6 percent of the total.

Three other industry groups reported more than 100 million pounds each. The food industry ranked fourth among original industries, with 126.9 million pounds, 5.4 percent of the total for all original industries. Multiple codes group ranked fifth, with

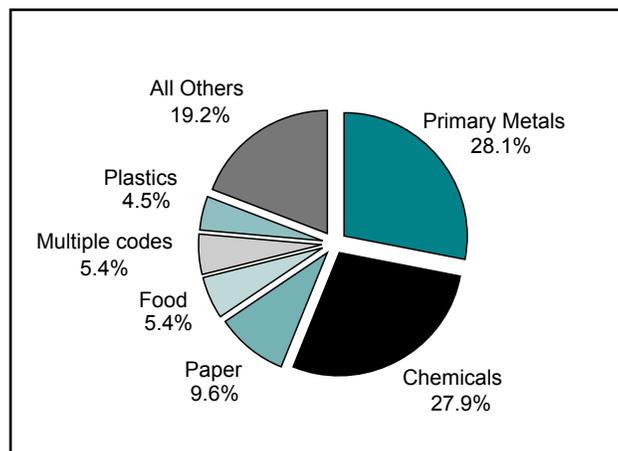


126.6 million pounds, 5.4 percent of the total for all original industries. The plastics industry had 105.4 million pounds of releases, or 4.5 percent of the total for all original industries (see Figure 5-1).

The primary metals industry ranked first for on-site land releases, with 217.7 million pounds. The primary metals industry also was the leading industry for transfers off-site to disposal, with 282.8 million pounds. The chemicals industry led all industries in total air emissions (277.5 million pounds), underground injections (203.9 million pounds), and surface water discharges (68.7 million pounds).

Figure 5-2 displays on- and off-site releases for the original industries with the largest total releases. Air releases were the largest release type for all of these industries except primary metals. In the primary metals industry, off-site releases (transfers off-site to disposal) and on-site land releases outweighed other release types. (Types of on-site land releases are described in Box 1-4 in Chapter 1.) For the food industry, surface water discharges (55.6 million pounds) were almost as large as air releases (59.8 million pounds). The chemicals industry reported

Figure 5-1. TRI On-site and Off-site Releases, Original Industries, by Industry, 2000



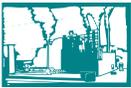
Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R. Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category.

concentrations in air releases (277.5 million pounds) and underground injections (203.9 million pounds).

Table 5-1: TRI Facilities and Forms, Original (Manufacturing) Industries, by Industry, 2000

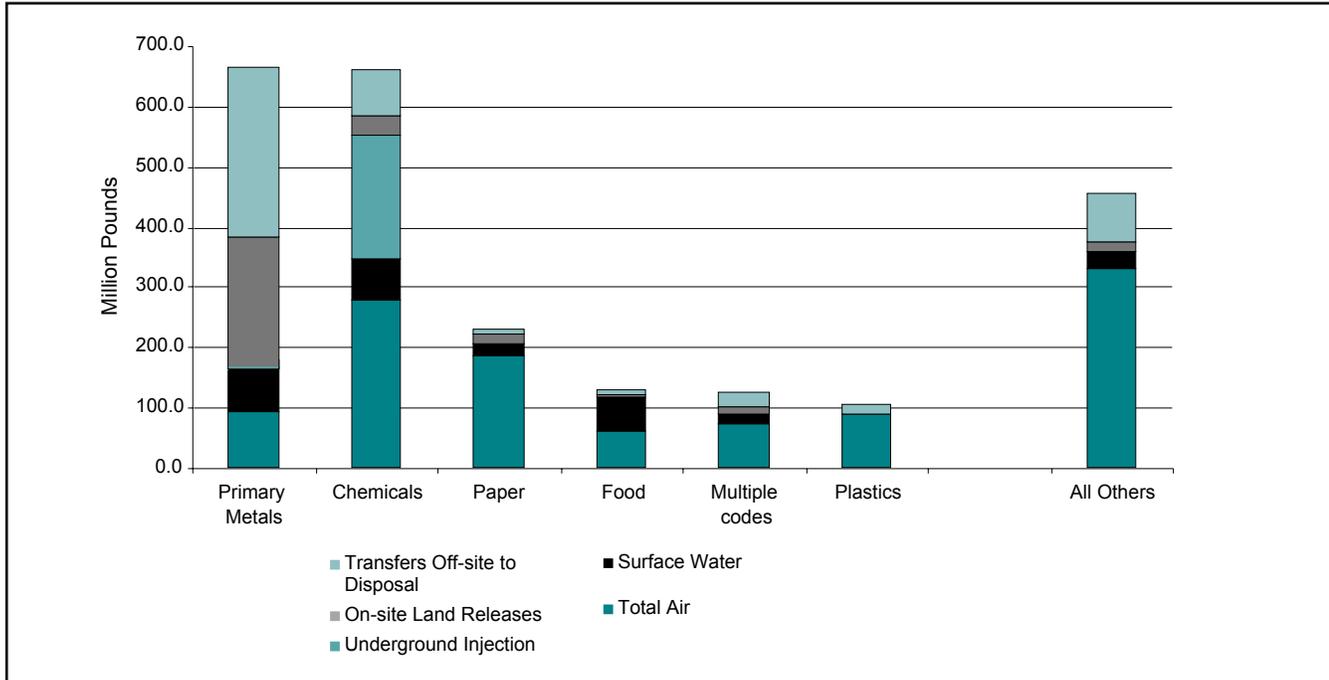
SIC Code	Industry	Total Facilities Number	Total Forms Number	Form Rs Number	Form As Number
20	Food	1,710	3,488	2,244	1,244
21	Tobacco	27	83	83	0
22	Textiles	292	646	595	51
23	Apparel	15	38	37	1
24	Lumber	857	2,177	1,385	792
25	Furniture	324	703	649	54
26	Paper	496	2,972	2,894	78
27	Printing	202	436	411	25
28	Chemicals	3,745	20,974	17,345	3,629
29	Petroleum	550	4,134	3,788	346
30	Plastics	1,888	3,969	3,352	617
31	Leather	75	180	164	16
32	Stone/Clay/Glass	757	2,294	2,003	291
33	Primary Metals	1,948	7,241	6,454	787
34	Fabricated Metals	2,893	7,825	6,870	955
35	Machinery	1,109	2,778	2,419	359
36	Electrical Equip.	1,197	3,073	2,883	190
37	Transportation Equip.	1,302	4,622	4,271	351
38	Measure/Photo.	257	602	520	82
39	Miscellaneous	302	676	553	123
	Multiple codes 20-39	1,248	4,691	4,176	515
	No codes 20-39	158	529	477	52
	Total	21,352	74,131	63,573	10,558

Note: Facilities/forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Facilities/forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



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Figure 5-2: Distribution of TRI On-site and Off-site Releases, Original Industries with Largest Totals, 2000



Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R. Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category.

Table 5-2: TRI On-site and Off-site Releases, Original (Manufacturing) Industries, by Industry, 2000

SIC Code Industry	Air		Surface Water Discharges Pounds	Underground Injection	
	Fugitive or Nonpoint Air Emissions Pounds	Stack or Point Air Emissions Pounds		Class I Wells Pounds	Class II-V Wells Pounds
20 Food	21,772,275	38,064,056	55,613,128	852	1
21 Tobacco	48,865	2,315,580	561,468	0	0
22 Textiles	1,648,055	5,664,228	210,155	0	0
23 Apparel	43,806	431,458	0	0	0
24 Lumber	4,867,798	27,990,904	59,761	0	0
25 Furniture	2,017,268	10,144,346	29	0	0
26 Paper	12,253,113	172,376,575	20,072,572	0	0
27 Printing	8,814,631	9,942,864	370	0	0
28 Chemicals	74,456,975	203,066,347	68,741,956	203,697,451	178,604
29 Petroleum	18,720,208	27,987,745	18,002,188	2,355,783	54,723
30 Plastics	21,713,744	66,934,670	33,223	0	0
31 Leather	547,948	1,392,165	102,461	0	0
32 Stone/Clay/Glass	1,781,818	30,518,753	160,201	0	3,092
33 Primary Metals	18,743,949	75,378,342	68,484,434	975,929	0
34 Fabricated Metals	17,649,828	31,187,748	1,868,629	0	0
35 Machinery	4,361,400	5,778,169	82,251	0	0
36 Electrical Equip.	4,281,578	11,216,109	4,203,353	250	5
37 Transportation Equip.	16,935,519	66,059,098	214,466	0	0
38 Measure/Photo.	910,879	6,645,710	1,109,047	0	2
39 Miscellaneous	1,641,428	5,527,959	37,995	0	0
Multiple codes 20-39	14,906,036	56,781,705	15,313,992	29,100	5
No codes 20-39	1,494,822	1,571,388	498,491	0	505
Total	249,611,942	856,975,920	255,370,170	207,059,365	236,937

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R. Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



Top 20 Chemicals for On- and Off-site Releases

Table 5-3 lists the 20 TRI chemicals with the largest total releases in 2000 by the original industries. On- and off-site releases of the top 20 TRI chemicals totaled 1.81 billion pounds, 76.5 percent of the total 2.37 billion pounds for all chemicals.

Zinc compounds led all TRI chemicals, with releases totaling 309.5 million pounds. Off-site releases (transfers to disposal) totaling 201.6 million pounds constituted almost 65.1 percent of this total. As explained in Box 1-5 in Chapter 1, off-site releases of metals and their compounds include transfers to solidification/stabilization and to wastewater treatment, including transfers to POTWs. The second greatest source of releases for zinc compounds was other on-site land releases (that is, on-site land releases other than RCRA subtitle C landfills)—

97.2 million pounds, or 31.4 percent of the total on- and off-site releases of zinc compounds.

Nitrate compounds ranked second in total releases, with 304.3 million pounds. Of that total, 231.7 million pounds, or 76.1 percent, were released through surface water discharges. Nitrate compounds constituted 90.7 percent of all surface water discharges for all chemicals. TRI facilities in the original industries also injected 47.1 million pounds of nitrate compounds into Class I underground wells on-site, the largest amount for that type of release.

Methanol ranked third in total on- and off-site releases, with 204.6 million pounds. Methanol ranked first for air emissions, with 182.3 million pounds. Air emissions constituted 89.1 percent of the total on- and off-site releases for methanol.

Table 5-2: TRI On-site and Off-site Releases, Original (Manufacturing) Industries, by Industry, 2000
(continued)

Industry	On-site Land Releases					Total On-site Releases Pounds	Off-site Releases Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
	RCRA Subtitle C Landfills Pounds	Other Landfills Pounds	Land Treatment Pounds	Surface Impoundments Pounds	Other Disposal Pounds			
Food	500	93,888	5,691,690	260,631	305,549	121,802,570	5,110,493	126,913,063
Tobacco	0	0	0	0	0	2,925,913	223,568	3,149,481
Textiles	0	1,798	14,195	140,506	129,155	7,808,092	715,069	8,523,161
Apparel	0	0	0	0	0	475,264	68,195	543,459
Lumber	3,975	62,839	3,480	87,827	21,413	33,097,996	1,480,071	34,578,067
Furniture	510	2,666	0	0	7,541	12,172,360	110,852	12,283,212
Paper	423,387	10,419,426	927,667	3,160,686	389,152	220,022,578	7,413,276	227,435,854
Printing	0	27,000	0	0	250	18,785,115	185,233	18,970,348
Chemicals	1,176,172	22,587,132	1,470,954	6,506,796	2,986,632	584,869,018	76,215,704	661,084,723
Petroleum	2	454,418	31,728	473,558	103,512	68,183,864	5,759,036	73,942,901
Plastics	224,258	557,513	0	5,800	6,657	89,475,865	15,876,935	105,352,800
Leather	0	0	0	4,013	250	2,046,837	1,606,029	3,652,866
Stone/Clay/Glass	560	4,274,881	1,012	116,818	366,285	37,223,419	7,072,185	44,295,604
Primary Metals	6,817,150	72,890,371	11,535	34,849,143	103,118,176	381,269,029	282,752,550	664,021,580
Fabricated Metals	185,205	268,527	18,783	2,129	302,313	51,483,161	26,013,911	77,497,072
Machinery	10,158	400,846	5,508	1,929,487	96,990	12,664,809	6,714,184	19,378,993
Electrical Equip.	1,310,377	630,336	750	19,733	73,130	21,735,621	13,512,295	35,247,916
Transportation Equip.	30,717	281,934	1,401	238	101,443	83,624,816	13,055,301	96,680,117
Measure/Photo.	6,594	148	542	1	12,093	8,685,016	658,382	9,343,397
Miscellaneous	3,825	6,208	0	0	3,220	7,220,635	1,048,860	8,269,495
Multiple codes 20-39	203,403	2,482,478	430,545	5,110,287	5,976,287	101,233,838	25,407,627	126,641,465
No codes 20-39	73,002	70,885	1,254,065	1,043,091	1,621,620	7,627,869	734,091	8,361,960
Total	10,469,795	115,513,294	9,863,854	53,710,743	115,621,667	1,874,433,686	491,733,848	2,366,167,533

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R. Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



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Table 5-3: TRI On-site and Off-site Releases, Original (Manufacturing) Industries, 2000

CAS Number	Chemical	Total Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection		On-site Land Releases		Total On-site Releases Pounds	Off-site Releases	
				Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds		Transfers Off-site to Disposal Pounds	Total On- and Off-site Releases Pounds
--	Zinc compounds	6,140,049	902,893	246,134	1,105	3,427,752	97,245,524	107,963,457	201,577,359	309,540,816
--	Nitrate compounds	336,149	231,650,081	47,101,061	750	12,902	6,892,101	285,993,044	18,299,303	304,292,347
67-56-1	Methanol	182,267,111	3,744,637	14,268,916	79,757	20,418	1,396,507	201,777,346	2,853,731	204,631,077
7664-41-7	Ammonia	131,524,721	6,775,957	27,072,360	38,511	1,970	2,691,626	168,105,145	4,410,466	172,515,611
--	Manganese compounds	1,673,484	5,078,261	9,513,796	250	1,046,423	54,893,918	72,206,132	51,137,331	123,343,463
108-88-3	Toluene	79,920,420	37,928	316,330	500	4,523	47,421	80,327,122	1,270,690	81,597,811
--	Copper compounds	1,208,671	84,705	247,235	0	224,585	56,707,072	58,472,268	14,894,889	73,367,157
100-42-5	Styrene	57,153,754	3,351	260,005	0	38,624	145,565	57,601,299	2,187,323	59,788,622
1330-20-7	Xylene (mixed isomers)	56,709,188	73,110	75,393	750	8,439	24,460	56,891,340	991,070	57,882,410
7647-01-0	Hydrochloric acid	53,653,445	96,716	54,125	0	0	13,167	53,817,453	1,212,411	55,029,864
110-54-3	n-Hexane	52,550,376	12,484	112,886	0	624	4,232	52,680,602	34,531	52,715,133
7782-50-5	Chlorine	45,483,946	264,000	157,321	10,000	0	216,220	46,131,487	15,949	46,147,436
75-15-0	Carbon disulfide	40,584,051	3,699	17,456	0	372	2,502	40,608,080	2,800	40,610,880
--	Lead compounds	912,965	37,692	212,480	0	528,230	11,884,359	13,575,726	26,364,344	39,940,070
78-93-3	Methyl ethyl ketone	33,840,908	40,413	200,487	5	6,686	23,376	34,111,875	883,861	34,995,736
--	Glycol ethers	31,179,323	109,904	2,084	43,140	15,873	26,625	31,376,949	1,692,669	33,069,618
--	Chromium compounds	424,116	116,272	1,442,625	0	172,221	13,380,103	15,535,337	17,338,149	32,873,486
75-09-2	Dichloromethane	30,635,855	10,016	108,170	0	50	747,916	31,502,007	259,330	31,761,337
7664-93-9	Sulfuric acid	28,578,774	18,305	807,650	0	0	13,211	29,417,940	222,032	29,639,972
7697-37-2	Nitric acid	2,294,904	51,764	11,877,808	0	7,641	301,982	14,534,099	10,837,468	25,371,567
Subtotal (top 20 chemicals)		837,072,211	249,112,188	114,094,322	174,768	5,517,333	246,657,887	1,452,628,709	356,485,705	1,809,114,414
Total (all chemicals)		1,106,587,862	255,370,170	207,059,365	236,937	10,469,795	294,709,557	1,874,433,686	491,733,848	2,366,167,533

Note: On-site Releases are from Section 5 of Form R. Off-site Releases are from Section 6 (transfers off-site to disposal) of Form R. Off-site Releases include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.

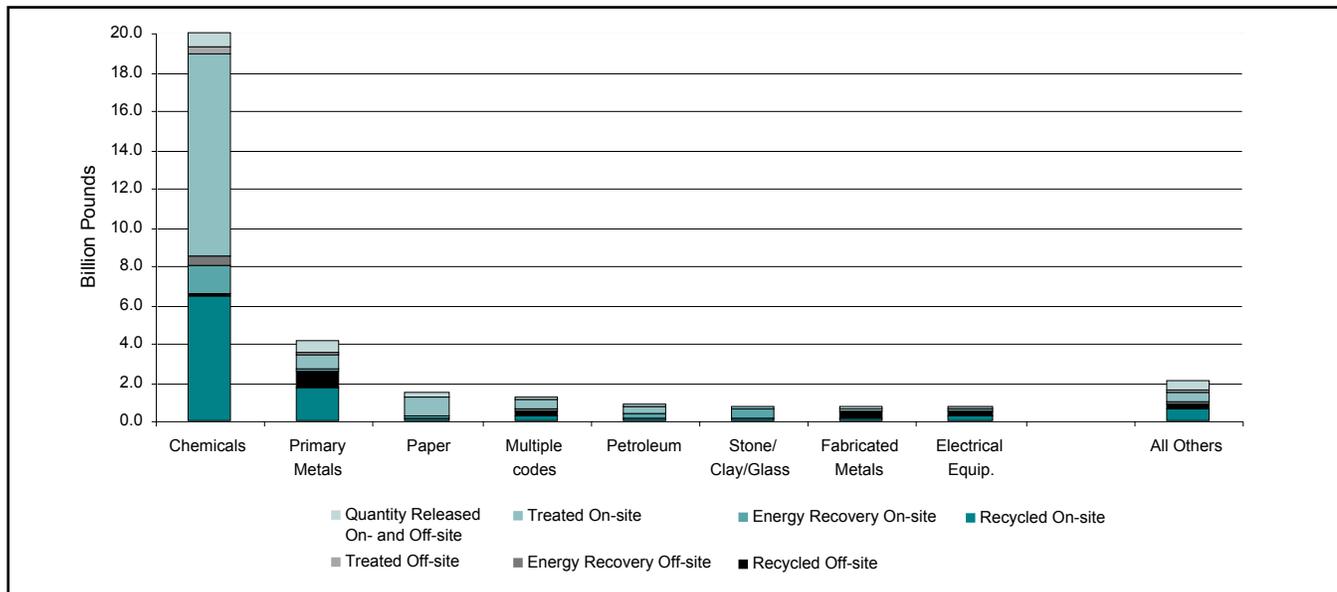
Ammonia ranked fourth overall, with 172.5 million pounds, and was second highest for air emissions (131.5 million pounds).

Waste Management Data, 2000

Quantities of TRI Chemicals in Waste

Facilities in the original TRI industries reported managing a total of 31.73 billion pounds of TRI chemicals in waste in 2000, as shown in Table 5-4.

Figure 5-3: Distribution of Quantities of TRI Chemicals in Waste Managed, Original Industries with Largest Total, 2000



Note: Data are from Section 8 of Form R. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category.



Table 5-4: Quantities of TRI Chemicals in Waste Managed, Original (Manufacturing) Industries, by Industry, 2000

SIC Code Industry	Recycled		Energy Recovery		Treated		Quantity Released On- and Off-site Pounds	Total Production-related Waste Managed Pounds	Non-production-related Waste Managed Pounds
	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds	On-site Pounds	Off-site Pounds			
20 Food	286,456,551	4,831,566	342,139	209,050	143,183,492	29,360,328	131,484,341	595,867,466	449,623
21 Tobacco	2,662	42,777	0	0	1,501,246	600,509	3,146,288	5,293,482	0
22 Textiles	11,717,208	775,478	5,794,271	1,818,767	12,147,515	1,658,758	8,244,066	42,156,063	8
23 Apparel	74,180	70,792	0	58,443	1,117,182	23,029	529,307	1,872,933	0
24 Lumber	8,955,534	640,567	3,619,300	2,290,960	123,519,328	1,953,124	34,285,026	175,263,840	629,020
25 Furniture	1,727,954	5,683,002	54,815	2,552,357	1,130,238	494,045	12,266,649	23,909,060	550
26 Paper	95,180,618	2,385,627	167,025,426	7,213,292	927,977,776	45,784,176	227,431,329	1,472,998,244	7,826
27 Printing	204,219,124	5,521,013	518,128	3,627,364	129,961,583	2,157,676	19,269,605	365,274,493	14,326
28 Chemicals	6,399,051,563	179,639,658	1,446,904,943	436,758,808	10,503,372,943	324,680,430	656,887,750	19,947,296,093	2,994,757
29 Petroleum	83,798,320	46,582,980	270,886,324	1,670,791	362,669,777	9,236,169	74,048,433	848,892,793	218,321
30 Plastics	41,886,850	15,118,379	15,294,180	6,779,236	34,574,334	9,299,233	102,093,105	225,045,318	41,158
31 Leather	450,462	272,547	963	51,745	12,709,194	628,579	3,930,330	18,043,820	0
32 Stone/Clay/Glass	145,057,643	5,169,167	507,578,016	2,890,346	12,185,166	3,350,820	44,182,495	720,413,652	38,196
33 Primary Metals	1,734,891,916	770,504,069	166,306,921	4,175,811	761,362,143	36,439,786	638,451,235	4,112,131,881	33,371,714
34 Fabricated Metals	128,983,076	350,710,425	19,836,394	13,105,837	102,036,332	23,866,406	78,642,436	717,180,906	285,520
35 Machinery	10,024,243	85,520,260	227,524	2,103,734	6,373,558	4,071,382	19,130,118	127,450,819	108,404
36 Electrical Equip.	184,269,559	347,571,006	14,604,903	15,661,081	76,763,476	28,260,386	33,890,659	701,021,070	75,475
37 Transportation Equip.	19,174,666	126,026,494	772,552	11,166,517	29,348,263	12,993,734	95,289,907	294,772,133	56,561
38 Measure/Photo.	2,231,746	10,680,830	261,430	2,276,854	41,936,344	2,122,340	9,440,147	68,949,692	2,452
39 Miscellaneous	7,424,360	12,882,293	4,259,115	1,943,842	4,279,428	3,015,112	8,553,056	42,357,206	208,542
Multiple codes 20-39	285,619,629	186,128,065	61,998,972	32,066,863	478,415,055	29,983,935	127,678,573	1,201,891,092	373,477
No codes 20-39	2,597,122	3,209,725	357,460	618,285	11,581,699	1,151,569	6,462,701	25,978,561	1,097,263
Total	9,653,794,985	2,159,966,719	2,686,643,776	549,039,983	13,778,146,072	571,131,526	2,335,337,556	31,734,060,618	39,973,193

Note: Data are from Section 8 of Form R. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.

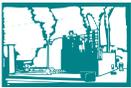
Figure 5-3 shows production-related waste reported by the industries with the largest totals.

On-site treatment was the most common handling method, accounting for 13.78 billion pounds of the production-related waste managed in the original industries. On-site recycling was the second most common method, accounting for 9.65 billion pounds of production-related waste. Together, these two methods constituted 73.8 percent of the total production-related waste managed. The third most common waste management method was on-site energy recovery, which accounted for 2.69 billion pounds. On- and off-site releases accounted for 2.34 billion pounds of the total waste managed and off-site recycling for 2.16 billion pounds.

The chemical manufacturing industry reported managing 19.95 billion pounds of total production-related waste in 2000, 62.9 percent of the total for all original industries combined. The chemical manufacturing industry also reported the largest quantities in all waste management categories except off-site recycling. Nearly 52.7 percent (10.50 billion pounds) of the chemical manufacturing industry's

production-related waste was treated on-site. One facility in Louisiana reported 5.85 billion pounds, over half of the chemicals industry's on-site treatment for 2000. On-site recycling, the chemical industry's second most common waste management method, accounted for 32.1 percent, or 6.40 billion pounds, of the industry's waste. One facility in Alabama reported 2.08 billion pounds of on-site recycling, almost one-third of the chemicals industry's on-site recycling for 2000. On-site energy recovery totaled 1.45 billion pounds, or 7.3 percent of the industry's total production-related waste. The chemicals industry reported 656.9 million pounds released on- and off-site.

The primary metals industry ranked second among original industries for total production-related waste managed, with 4.11 billion pounds. On-site recycling accounted for the 42.2 percent of this total, or 1.73 billion pounds—second to the chemical manufacturing industry in this management category. The primary metals industry reported the largest quantity of off-site recycling (770.5 million pounds) and the second-largest quantity released on- and off-site



(638.5 million pounds, a little lower than the amount for chemical manufacturing).

The paper products industry reported the third-largest total production-related waste managed, 1.47 billion pounds. Nearly 63.0 percent of this amount (928.0 million pounds) was treated on-site, the second-largest quantity for on-site treatment, trailing chemical manufacturing.

One other industry group exceeded 1 billion pounds in total production-related waste: the multiple codes group, which reported a total of 1.20 billion pounds. Of that total, 39.8 percent (478.4 million pounds) was treated on-site, while 23.8 percent (285.6 million pounds) was recycled on-site.

Transfers Off-site for Further Waste Management/Disposal

As shown in Table 5-5, the original industries transferred a total of 3.69 billion pounds of TRI waste for further waste management and disposal in 2000.

The primary metals industry accounted for 28.7 percent (1.06 billion pounds) of the combined total transfers for all original industries. Within the primary metals industry, 70.5 percent (745.8 million pounds) of TRI transfers came from transfers to recycling, while other transfers off-site to disposal accounted for 26.7 percent (282.4 million pounds) of the industry's total.

Chemical manufacturing accounted for the next highest share—27.1 percent (999.9 million pounds)—of the combined total for all original industries. Of the chemical manufacturing industry's off-site transfers total, 43.0 percent (430.4 million pounds) came from transfers to energy recovery, 18.6 percent (185.7 million pounds) from transfers to treatment, and 16.6 percent (166.4 million pounds) from transfers to recycling.

The third-largest share of the total transfers off-site for further waste management and disposal came

Table 5-5: TRI Transfers Off-site for Further Waste Management/Disposal, Original (Manufacturing) Industries, by Industry, 2000

SIC Code Industry	Transfers to POTWs			Transfers to POTWs		Other Off-site Transfers* Pounds	Other Transfers Off-site to Disposal** Pounds	Total Transfers for Further Waste Management/Disposal Pounds
	Transfers to Recycling Pounds	Transfers to Energy Recovery Pounds	Transfers to Treatment Pounds	Metals and Metal Non-metal TRI Compounds Chemicals				
				Pounds	Pounds			
20 Food	4,559,165	137,954	1,410,338	368,277	32,259,824	23,238	4,742,216	43,501,012
21 Tobacco	35,977	0	201,544	0	347,065	0	223,568	808,154
22 Textiles	985,229	1,816,468	252,254	95,840	1,344,313	0	619,229	5,113,333
23 Apparel	67,777	27,556	0	505	19,079	7,592	67,690	190,199
24 Lumber	849,710	2,421,729	2,033,883	38	223,065	0	1,480,033	7,008,459
25 Furniture	5,580,592	2,871,038	683,366	961	19,031	570	109,891	9,265,449
26 Paper	1,974,383	7,122,594	8,553,659	294,330	37,100,689	0	7,118,945	62,164,601
27 Printing	5,632,968	3,371,086	1,319,902	3,106	1,252,019	0	182,127	11,761,208
28 Chemicals	166,434,052	430,389,600	185,708,512	514,860	140,932,910	257,522	75,700,844	999,938,301
29 Petroleum	35,978,232	1,643,007	3,949,520	79,268	6,637,986	134	5,679,769	53,967,915
30 Plastics	15,098,531	6,665,214	2,219,318	77,650	6,785,934	3,195	15,799,285	46,649,127
31 Leather	264,205	47,264	38,313	363,808	622,943	0	1,242,221	2,578,754
32 Stone/Clay/Glass	5,105,737	2,986,481	993,361	72,130	4,251,622	750	7,000,055	20,410,135
33 Primary Metals	745,813,285	5,274,506	7,764,688	370,370	16,526,419	77,558	282,382,181	1,058,209,006
34 Fabricated Metals	356,072,638	13,132,601	5,509,549	367,190	19,710,261	163,884	25,646,720	420,602,844
35 Machinery	82,188,733	1,985,070	959,652	101,322	2,871,649	0	6,612,863	94,719,288
36 Electrical Equip.	316,427,639	15,464,604	4,270,292	116,608	25,490,414	9,453,276	13,395,687	384,618,519
37 Transportation Equip.	114,157,398	10,920,093	3,781,346	191,790	9,625,704	13,352	12,863,511	151,553,194
38 Measure/Photo.	10,741,979	2,282,568	1,680,626	5,583	449,865	2,982	652,799	15,816,402
39 Miscellaneous	12,797,536	1,979,404	1,909,544	7,058	1,572,709	0	1,041,802	19,308,053
Multiple codes 20-39	180,149,851	31,590,314	9,267,190	121,188	25,210,657	624,391	25,286,439	272,250,030
No codes 20-39	3,806,728	362,112	372,387	1,770	817,302	2	732,322	6,092,622
Total	2,064,722,344	542,491,264	242,879,243	3,153,650	334,071,460	10,628,445	488,580,198	3,686,526,604

Note: Total Transfers Off-site for Further Waste Management/Disposal are from Section 6 of Form R. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



from the fabricated metals industry, which had 11.4 percent (420.6 million pounds) of the overall total. Of the 420.6 million pounds, 84.7 percent (356.1 million pounds) came from transfers to recycling.

Of the 3.69 billion pounds of TRI transfers off-site for further waste management and disposal by original industries, 56.0 percent (2.06 billion pounds) was managed through transfers to recycling, 14.7 percent (542.5 million pounds) through transfers to energy recovery, and 13.3 percent (488.6 million pounds) through other transfers to off-site disposal. The primary metals industry accounted for 745.8 million pounds of the total 2.06 billion pounds managed through transfers to recycling, fabricated metals for 356.1 million pounds, and chemical manufacturing for 166.4 million pounds. In transfers to energy recovery, the second most-common management category, chemical manufacturing accounted for 430.4 million pounds, multiple codes for 31.6 million pounds, and electrical equipment for 15.5 million pounds.

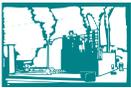
Projected Quantities of TRI Chemicals Managed in Waste, 2000-2002

As described in Waste Management in Chapter 1, on each Form R that it submits, a facility reports actual waste management quantities for the current and prior years and projected quantities for the next two years. Table 5-6 outlines the current and projected quantities of TRI chemicals in waste in the original industries. In 2000, the original industries reported 31.73 billion pounds and projected totals of 32.5 billion pounds for 2001 and 32.9 billion pounds for 2002. These projections represent a 2.3 percent increase from 2000 to 2001 and a 3.6 percent increase from 2000 to 2002. The largest net increase from 2000 to 2002 was projected to come from the chemical manufacturing industry, which expects an increase of 865.5 million pounds. The second largest net increase (473.5 million pounds) was projected by the food industry—a 79.5 percent increase over its current total. From 2000 to 2002,

Table 5-6: Current Year and Projected Quantities of TRI Chemicals in Waste, Original (Manufacturing) Industries, by Industry, 2000-2002

SIC Code Industry	Total Production-related Waste Management					
	Current Year 2000 Pounds	Projected			Change 2000-2001 Percent	Change 2000-2002 Percent
		2001 Pounds	2002 Pounds			
20 Food	595,867,466	1,063,665,378	1,069,334,463	78.5	79.5	
21 Tobacco	5,293,482	5,304,018	5,300,499	0.2	0.1	
22 Textiles	42,156,063	38,425,114	38,866,165	-8.9	-7.8	
23 Apparel	1,872,933	1,904,511	1,915,760	1.7	2.3	
24 Lumber	175,263,840	193,796,679	216,863,727	10.6	23.7	
25 Furniture	23,909,060	20,499,764	20,271,415	-14.3	-15.2	
26 Paper	1,472,998,244	1,455,419,015	1,454,371,761	-1.2	-1.3	
27 Printing	365,274,493	412,141,746	459,722,984	12.8	25.9	
28 Chemicals	19,947,296,093	20,490,637,373	20,812,829,368	2.7	4.3	
29 Petroleum	848,892,793	838,023,315	837,177,786	-1.3	-1.4	
30 Plastics	225,045,318	204,991,937	200,216,622	-8.9	-11.0	
31 Leather	18,043,820	17,403,042	17,268,876	-3.6	-4.3	
32 Stone/Clay/Glass	720,413,652	709,637,376	733,980,890	-1.5	1.9	
33 Primary Metals	4,112,131,881	3,853,723,459	3,892,322,299	-6.3	-5.3	
34 Fabricated Metals	717,180,906	686,642,434	693,767,199	-4.3	-3.3	
35 Machinery	127,450,819	122,999,198	124,244,174	-3.5	-2.5	
36 Electrical Equip.	701,021,070	748,598,423	668,504,967	6.8	-4.6	
37 Transportation Equip.	294,772,133	288,815,618	289,234,534	-2.0	-1.9	
38 Measure/Photo.	68,949,692	68,792,835	68,592,571	-0.2	-0.5	
39 Miscellaneous	42,357,206	41,949,911	45,535,706	-1.0	7.5	
Multiple codes 20-39	1,201,891,092	1,185,070,783	1,210,805,656	-1.4	0.7	
No codes 20-39	25,978,561	20,732,979	20,427,442	-20.2	-21.4	
Total	31,734,060,618	32,469,174,909	32,881,554,865	2.3	3.6	

Note: Data are from Section 8 (Total of 8.1 through 8.7) of Form R for 2000. Current Year is Column B, 2001 is Column C and 2002 is Column D. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



food had the largest projected percent increase (79.5 percent), followed by printing (25.9 percent), and lumber (23.7 percent.)

These increases offset projected declines in the primary metals industry, which expected a decline of 219.8 million pounds, and an anticipated decline of 32.5 million pounds in the electrical equipment industry. The sharpest projected percentage reductions were reported by the no-codes group (down 21.4 percent), furniture (down 15.2 percent) and plastics (down 11.0 percent).

Source Reduction, 2000

The original industries submitted 63,573 Form R's, 17.1 percent (10,869) of which reported source reduction activities (see Table 5-7). As noted in Waste Management in Chapter 1, source reduction—an activity that prevents the generation of waste—is the preferred waste management option.

The furniture industry had the highest ratio of forms reporting source reduction activity (32.5 per-

cent), followed by measurement/photographic industry (23.5 percent), printing (23.4 percent), and plastics (22.2 percent). The industries with the lowest ratios of reported source reduction activities were tobacco (2.4 percent), apparel (2.7 percent), and paper (10.2 percent). Most industries fell somewhere between 12 percent and 22 percent.

Good operating practices accounted for the largest number (6,095) of source reduction activities reported by the original industries. Process modifications accounted for the next largest number (3,704) while spill and leak prevention accounted for the third (2,690). The chemical manufacturing industry had the highest number of reported source reductions in every category but two—cleaning and degreasing (where fabricated metals did), and surface preparation and finishing (where transportation equipment did)—mainly because it submitted over one-quarter of the total Form R's.

Table 5-7: Number of Forms Reporting Source Reduction Activity, Original (Manufacturing) Industries, by Industry, 2000

SIC Code Industry	Total Form Rs Number	Forms Reporting Source Reduction Activity		Category of Source Reduction Activity								
		Percent of All Form Rs		Good Operating Practices	Inventory Control	Spill and Leak Prevention	Raw Materials Modifications	Process Modifications	Cleaning and Degreasing	Surface Preparation and Finishing	Product Modifications	
		Number	Percent	Number	Number	Number	Number	Number	Number	Number	Number	
20 Food	2,244	344	15.3	250	22	110	11	96	14	4	2	
21 Tobacco	83	2	2.4	0	0	0	2	0	0	0	0	
22 Textiles	595	86	14.5	42	13	13	24	24	9	8	5	
23 Apparel	37	1	2.7	1	0	0	0	0	0	0	0	
24 Lumber	1,385	286	20.6	144	4	80	68	81	13	118	10	
25 Furniture	649	211	32.5	99	31	38	38	26	4	168	15	
26 Paper	2,894	294	10.2	147	18	27	94	112	7	13	37	
27 Printing	411	96	23.4	45	8	2	39	30	1	2	5	
28 Chemicals	17,345	3,179	18.3	1,935	512	1,051	446	1,171	141	10	353	
29 Petroleum	3,788	438	11.6	196	22	384	5	190	6	0	0	
30 Plastics	3,352	743	22.2	325	98	96	185	217	25	147	67	
31 Leather	164	34	20.7	15	4	5	11	5	3	15	1	
32 Stone/Clay/Glass	2,003	304	15.2	123	14	122	52	134	4	22	18	
33 Primary Metals	6,454	798	12.4	477	69	176	104	311	25	37	23	
34 Fabricated Metals	6,870	1,227	17.9	699	173	161	150	362	176	159	64	
35 Machinery	2,419	283	11.7	157	32	29	25	88	14	54	26	
36 Electrical Equip.	2,883	597	20.7	333	71	99	67	236	54	34	41	
37 Transportation Equip.	4,271	708	16.6	378	104	57	123	193	45	184	45	
38 Measure/Photo.	520	122	23.5	83	24	15	20	47	8	2	13	
39 Miscellaneous	553	121	21.9	55	10	18	25	53	7	21	6	
Multiple codes 20-39	4,176	899	21.5	545	136	185	117	316	41	72	66	
No codes 20-39	477	96	20.1	46	27	22	17	12	18	18	1	
Total	63,573	10,869	17.1	6,095	1,392	2,690	1,623	3,704	615	1,088	798	

Note: All source reduction activities on a form are counted in the corresponding category. Totals do not equal the sum of the categories because forms may report more than one source reduction activity. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



YEAR-BY-YEAR COMPARISONS, BY INDUSTRY

Comparisons of TRI data across reporting years are made on the basis of chemicals that were reportable in all years with the same reporting definitions. This ensures that apparent increases or decreases from one year to another are not the result of changes in the list of TRI chemicals. **Making Year-to-Year Comparisons of TRI Data**, in Chapter 1, explains these multiyear analyses; an understanding of these issues is essential for accurate interpretation of the multiyear data presented in this chapter.

Progress in reducing releases and quantities of TRI chemicals in wastes in recent years is measured from 1995. Waste management data authorized under the federal Pollution Prevention Act of 1990 have been collected since 1991 and can be compared using that baseline. Comparisons of on-site and off-site releases can also be made for chemicals that were reportable in all years from 1988 to 2000.

On- and Off-site Releases, 1995–2000

Table 5-8 summarizes on- and off-site releases by the original TRI industries for 1995 through 2000. During this period, total on- and off-site releases decreased from 2.64 billion pounds to 2.35 billion pounds, a reduction of 11.2 percent. In this period, all the industries except food, tobacco, petroleum, stone/clay/glass, and primary metals reported declines in total on- and off-site releases.

In 1995, the chemical manufacturing industry reported the largest total on- and off-site releases of all original industry groups, while in 2000, the primary metals industry did. Even through the primary metals industry reported a 3.3 percent decline in total on- and off-site releases from 1999 to 2000, its reported total of 658.9 million pounds just edged the chemical manufacturing industry's total of 654.3 million pounds in 2000.

Table 5-8: TRI On-site and Off-site Releases, Original (Manufacturing) Industries, by Industry, 1995, 1998-2000

SIC Code Industry	Total On-site and Off-site Releases											
	1995		1998		1999		2000		Change 1999-2000		Change 1995-2000	
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Percent	Pounds	Percent	Pounds	Percent	
20 Food	124,409,881	131,305,383	127,457,251	126,691,326	-765,925	-0.6	2,281,445	1.8				
21 Tobacco	2,142,358	3,618,629	3,697,630	3,149,255	-548,375	-14.8	1,006,897	47.0				
22 Textiles	18,793,736	12,106,019	9,868,811	8,431,366	-1,437,445	-14.6	-10,362,370	-55.1				
23 Apparel	1,355,583	581,416	539,420	543,459	4,039	0.7	-812,124	-59.9				
24 Lumber	36,212,408	35,338,015	35,763,255	34,460,629	-1,302,626	-3.6	-1,751,779	-4.8				
25 Furniture	42,672,922	17,326,733	15,409,780	12,283,212	-3,126,568	-20.3	-30,389,710	-71.2				
26 Paper	241,465,911	232,610,832	228,619,592	226,757,841	-1,861,751	-0.8	-14,708,070	-6.1				
27 Printing	31,361,209	22,526,244	21,100,098	18,970,056	-2,130,042	-10.1	-12,391,153	-39.5				
28 Chemicals	829,713,398	710,596,167	683,640,399	654,277,040	-29,363,359	-4.3	-175,436,358	-21.1				
29 Petroleum	66,575,269	75,733,222	71,610,637	72,722,661	1,112,024	1.6	6,147,392	9.2				
30 Plastics	128,190,533	112,611,114	108,109,665	105,126,604	-2,983,061	-2.8	-23,063,929	-18.0				
31 Leather	4,851,489	4,835,113	4,390,175	3,633,866	-756,309	-17.2	-1,217,623	-25.1				
32 Stone/Clay/Glass	37,115,328	45,800,207	43,549,185	43,544,949	-4,236	-0.01	6,429,621	17.3				
33 Primary Metals	568,234,586	719,817,789	681,145,683	658,860,964	-22,284,719	-3.3	90,626,378	15.9				
34 Fabricated Metals	107,249,940	87,377,255	82,082,358	77,476,395	-4,605,963	-5.6	-29,773,545	-27.8				
35 Machinery	27,895,906	21,691,554	17,616,144	19,355,793	1,739,650	9.9	-8,540,113	-30.6				
36 Electrical Equip.	45,648,957	34,311,899	35,415,211	35,085,702	-329,509	-0.9	-10,563,255	-23.1				
37 Transportation Equip.	123,586,611	102,969,406	105,073,370	96,651,699	-8,421,671	-8.0	-26,934,912	-21.8				
38 Measure/Photo.	17,702,250	12,406,947	11,046,512	9,327,659	-1,718,853	-15.6	-8,374,591	-47.3				
39 Miscellaneous	13,973,903	10,479,112	10,287,305	8,265,647	-2,021,658	-19.7	-5,708,256	-40.8				
Multiple codes 20-39	159,175,346	128,847,304	129,179,844	124,595,039	-4,584,805	-3.5	-34,580,307	-21.7				
No codes 20-39	15,681,124	6,613,518	7,944,836	8,353,441	408,605	5.1	-7,327,683	-46.7				
Total	2,644,008,648	2,529,503,878	2,433,547,161	2,348,564,604	-84,982,557	-3.5	-295,444,044	-11.2				

Note: Does not include PBT chemicals, vanadium and vanadium compounds. **On-site Releases** are from Section 5 of Form R. **Off-site Releases** are from Section 6 (transfers off-site to disposal) of Form R. **Off-site Releases** include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



The chemical manufacturing industry's total has declined steadily from 829.7 million pounds in 1995 to 654.3 million pounds in 2000, a decline of 175.4 million pounds, or 21.1 percent. This drop accounted for 59.4 percent of the overall decline across all industries. The primary metals industry's total releases increased from 1995 to 1998 and declined from 1998 to 2000. This resulted in an increase of 90.6 million pounds, or 15.9 percent, from 1995 to 2000.

Outside of these two industries, no other original TRI industry reported a reduction or an increase of comparable size between 1995 and 2000. The next largest absolute reductions were in the multiple-codes group, from 159.2 million pounds in 1995 to 124.6 million pounds in 2000, a decline of 34.6 million pounds, and in the furniture industry, from 42.7 million pounds to 12.3 million pounds, a difference of 30.4 million pounds (and a 72.1 percent drop, the second highest percentage decline). Of the industries reporting net declines from 1995 to 2000, three—apparel, machinery, and no codes—reported

increases from 1999 to 2000, with the increase for the machinery industry at 9.9 percent

Of the industries reporting increases from 1995 to 2000, primary metals had the highest, followed by the following industries: stone/clay/glass, which jumped from 37.1 million pounds to 43.5 million pounds (an increase of 6.4 million pounds, or 17.3 percent); petroleum, which grew from 66.6 million pounds to 72.7 million pounds (6.1 million pounds, or 9.2 percent); the food industry, which grew from 124.4 million pounds to 126.7 million pounds (2.3 million, or 1.8 percent); and tobacco, which grew from 2.1 million pounds to 3.1 million pounds (1.0 million pounds, or 47.0 percent). Of these five industries, however, only petroleum reported an increase from 1999 to 2000.

On- and Off-site Releases, 1988–2000

Table 5-9 summarizes original-industry data for the chemicals that have been reportable since 1988. Between 1988 and 2000, total on- and off-site releases decreased from 3.21 billion pounds to 1.66

Table 5-9: TRI On-site and Off-site Releases, Original (Manufacturing) Industries, by Industry, 1988, 1995 and 1998-2000

SIC Code Industry	Total On- and Off-site Releases								
	1988 Pounds	1995 Pounds	1998 Pounds	1999 Pounds	2000 Pounds	Change 1999-2000		Change 1988-2000	
						Pounds	Percent	Pounds	Percent
20 Food	6,944,211	6,717,451	14,162,658	10,210,138	9,746,819	-463,319	-4.5	2,802,608	40.4
21 Tobacco	214,464	142,916	185,062	184,056	76,013	-108,043	-58.7	-138,451	-64.6
22 Textiles	36,798,254	15,917,509	10,262,528	7,973,352	7,062,171	-911,181	-11.4	-29,736,083	-80.8
23 Apparel	951,662	1,261,006	385,976	253,968	282,189	28,221	11.1	-669,473	-70.3
24 Lumber	32,847,467	31,591,926	32,271,682	33,202,605	31,550,495	-1,652,110	-5.0	-1,296,972	-3.9
25 Furniture	62,181,722	42,412,333	17,025,106	15,220,232	12,037,199	-3,183,033	-20.9	-50,144,523	-80.6
26 Paper	205,147,151	181,283,486	175,787,445	172,649,003	171,751,269	-897,734	-0.5	-33,395,882	-16.3
27 Printing	56,557,465	31,100,735	22,313,168	20,892,671	18,799,690	-2,092,981	-10.0	-37,757,775	-66.8
28 Chemicals	878,434,723	518,908,794	411,054,837	394,674,252	375,323,941	-19,350,311	-4.9	-503,110,782	-57.3
29 Petroleum	73,867,733	42,414,029	42,037,058	37,430,267	36,485,880	-944,387	-2.5	-37,381,853	-50.6
30 Plastics	160,557,448	114,824,012	100,127,539	97,555,503	94,324,024	-3,231,479	-3.3	-66,233,424	-41.3
31 Leather	10,089,020	4,418,337	4,266,247	3,807,119	3,053,149	-753,970	-19.8	-7,035,871	-69.7
32 Stone/Clay/Glass	37,870,869	21,906,904	29,486,910	27,639,210	27,405,786	-233,424	-0.8	-10,465,083	-27.6
33 Primary Metals	645,112,012	496,691,865	636,230,451	594,481,860	569,169,214	-25,312,646	-4.3	-75,942,798	-11.8
34 Fabricated Metals	159,992,832	95,507,792	80,038,030	75,398,918	70,036,965	-5,361,953	-7.1	-89,955,867	-56.2
35 Machinery	70,803,000	23,895,388	18,337,464	14,931,104	16,865,462	1,934,359	13.0	-53,937,538	-76.2
36 Electrical Equip.	128,579,658	32,893,633	24,696,235	24,320,252	24,153,550	-166,702	-0.7	-104,426,108	-81.2
37 Transportation Equip.	213,546,031	117,127,365	96,746,884	98,597,229	90,348,405	-8,248,824	-8.4	-123,197,626	-57.7
38 Measure/Photo.	56,724,774	12,564,695	6,922,539	5,981,095	4,519,920	-1,461,175	-24.4	-52,204,854	-92.0
39 Miscellaneous	31,785,682	13,390,421	10,045,878	9,648,500	7,519,640	-2,128,860	-22.1	-24,266,042	-76.3
Multiple codes 20-39	302,921,350	123,471,621	89,116,906	87,995,470	84,308,841	-3,686,629	-4.2	-218,612,509	-72.2
No codes 20-39	39,655,700	12,900,740	4,516,312	6,593,790	6,506,016	-87,774	-1.3	-33,149,684	-83.6
Total	3,211,583,228	1,941,342,958	1,826,016,915	1,739,640,594	1,661,326,638	-78,313,956	-4.5	-1,550,256,590	-48.3

Note: Does not include delisted chemicals, chemicals added in 1990, 1994 and 1995, aluminum oxide, ammonia, hydrochloric acid, PBT chemicals, sulfuric acid, vanadium and vanadium compounds. **On-site Releases** are from Section 5 of Form R. **Off-site Releases** are from Section 6 (transfers off-site to disposal) of Form R. **Off-site Releases** include metals and metal compounds transferred off-site for solidification/stabilization and for wastewater treatment, including to POTWs.



billion pounds, a decline of 1.55 billion pounds, or 48.3 percent. The chemical manufacturing industry showed the largest absolute reduction, from 878.4 million pounds in 1988 to 375.3 million pounds in 2000, a decrease of 503.1 million pounds and a reduction of 57.3 percent over the period.

Three other industry groups reported reductions of more than 100 million pounds each between 1988 and 2000. Releases from the multiple-codes group fell from 302.9 million pounds to 84.3 million pounds, a decrease of 218.6 million pounds, or 72.2 percent. Transportation equipment reported the next largest decline—from 213.5 million pounds to 90.3 million pounds, a drop of 123.2 million pounds, or 57.7 percent. Electrical equipment reported the third-largest decline, from 128.6 million pounds to 24.2 million pounds, a decline of 104.4 million pounds, or 81.2 percent.

Only the food industry reported an increase—2.8 million pounds or 40.4 percent—from 1988 to 2000. This increase was largely attributable to a sharp rise between 1995 and 1998, when releases jumped from 6.7 million pounds to 14.2 million pounds. Releases have been declining since 1998, however, falling to 9.7 million pounds in 2000, a 4.5 percent decline from 1999.

TRI Chemicals Managed in Waste, 1995–2000

As shown in Table 5-10, facilities in the original TRI industries reported managing 22.52 billion pounds of production-related waste in 1995 and 31.68 billion pounds in 2000. This was an increase of 9.15 billion pounds or 40.6 percent.

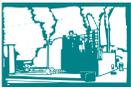
The chemical manufacturing industry reported by far the largest absolute increase from 1995 to 2000, from 9.53 billion pounds to 19.93 billion pounds, a

Table 5-10: Total Production-related Waste Managed, Original (Manufacturing) Industries, by Industry, 1995, 1998-2000

SIC Code Industry	Total Production-related Waste Managed							
	1995 Pounds	1998 Pounds	1999 Pounds	2000 Pounds	Change 1999-2000		Change 1995-2000	
					Pounds	Percent	Pounds	Percent
20 Food	431,359,039	1,299,632,863	977,098,745	595,027,804	-382,070,941	-39.1	163,668,765	37.9
21 Tobacco	3,061,366	5,897,772	5,044,066	5,293,256	249,190	4.9	2,231,890	72.9
22 Textiles	55,104,364	49,322,639	42,193,302	42,092,289	-101,013	-0.2	-13,012,075	-23.6
23 Apparel	2,229,053	1,899,082	1,790,511	1,872,933	82,422	4.6	-356,120	-16.0
24 Lumber	112,609,062	63,417,885	60,636,145	174,940,391	114,304,246	188.5	62,331,329	55.4
25 Furniture	60,757,734	32,951,128	28,263,228	23,909,060	-4,354,168	-15.4	-36,848,674	-60.6
26 Paper	1,758,747,785	1,474,424,792	1,547,311,639	1,472,133,106	-75,178,533	-4.9	-286,614,679	-16.3
27 Printing	295,015,578	300,592,517	317,757,576	365,274,201	47,516,625	15.0	70,258,623	23.8
28 Chemicals	9,531,079,050	10,610,180,475	11,851,608,126	19,931,380,390	8,079,772,264	68.2	10,400,301,340	109.1
29 Petroleum	946,991,407	1,057,822,318	1,112,664,133	845,902,331	-266,761,802	-24.0	-101,089,076	-10.7
30 Plastics	541,999,018	261,639,104	248,834,080	223,803,218	-25,030,863	-10.1	-318,195,800	-58.7
31 Leather	10,331,453	10,760,483	14,494,371	17,988,657	3,494,286	24.1	7,657,204	74.1
32 Stone/Clay/Glass	863,915,817	796,961,186	869,600,407	720,193,985	-149,406,422	-17.2	-143,721,832	-16.6
33 Primary Metals	4,092,313,701	3,618,085,603	3,462,562,546	4,091,037,918	628,475,372	18.2	-1,275,783	-0.03
34 Fabricated Metals	766,643,446	716,852,537	741,333,923	717,159,280	-24,174,643	-3.3	-49,484,166	-6.5
35 Machinery	171,028,929	148,328,509	130,326,475	127,394,633	-2,931,841	-2.2	-43,634,296	-25.5
36 Electrical Equip.	695,032,973	775,619,502	710,245,875	692,723,726	-17,522,149	-2.5	-2,309,247	-0.3
37 Transportation Equip.	400,098,548	305,803,045	315,896,741	294,753,149	-21,143,592	-6.7	-105,345,399	-26.3
38 Measure/Photo.	79,470,374	74,991,553	72,007,926	68,926,561	-3,081,365	-4.3	-10,543,813	-13.3
39 Miscellaneous	52,420,998	51,012,507	48,989,359	42,345,735	-6,643,624	-13.6	-10,075,263	-19.2
Multiple codes 20-39	1,536,786,434	1,080,538,131	1,053,591,719	1,196,476,277	142,884,559	13.6	-340,310,157	-22.1
No codes 20-39	115,195,961	30,937,398	31,320,579	25,740,392	-5,580,187	-17.8	-89,455,569	-77.7
Total	22,522,192,090	22,767,671,028	23,643,571,472	31,676,369,292	8,032,797,820	34.0	9,154,177,202	40.6

Note: Does not include PBT chemicals, vanadium and vanadium compounds. Data are from Section 8 (total of 8.1 through 8.7) of Form R of year indicated. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.

Six facilities in the food processing industry (SIC code 20) reported from 160 million pounds to 1 billion pounds each in on-site recycling of n-hexane in 1995, for a total of 3.7 billion pounds. One facility, owned by the same company, reporting in the multiple codes group reported 298 million pounds of n-hexane on-site recycling for 1995. On their 1996 Form Rs, these facilities reported no on-site recycling of n-hexane. On their 1996 Form Rs, these facilities also reported zero for on-site recycling of n-hexane for the prior year (1995). However, they have not revised their 1995 form. These amounts of on-site recycling in 1995 have been omitted from this table.



rise of 10.40 billion pounds, or 109.1 percent. Two facilities accounted for most of this increase; one facility in Louisiana reported an increase of 5.78 billion pounds from 1999 to 2000 and one facility in Alabama reporting for the first time in 2000 reported a total of 2.10 billion pounds.

The second largest increase came from the food industry, which grew from 431.4 million pounds to 595.0 million pounds, an increase of 163.7 million pounds, or 37.9 percent.

The multiple-codes group (forms reporting more than one two-digit SIC code) reported the largest reduction. This group's reported total production-related waste fell from 1.54 billion pounds in 1995 to 1.20 billion pounds in 2000, a decrease of 340.3 million pounds, or 22.1 percent. The plastics industry reported a decline of 318.2 million pounds, from 542.0 million pounds to 223.8 million pounds, a 58.7 percent reduction. The paper industry reported a reduction of 286.6 million pounds, or 16.3 percent, from 1.76 billion pounds to 1.47 billion pounds.

TRI Chemicals Managed in Waste, 1991-2000

As shown in Table 5-11, total production-related waste managed rose from 17.90 billion pounds in 1991 to 27.07 billion pounds in 2000, a 51.2 percent increase. This analysis addresses only the chemicals that were reportable in all years, 1991 to 2000.

The chemical manufacturing industry reported the largest absolute increase, from 6.86 billion pounds in 1991 to 17.03 billion pounds in 2000, a 148.4 percent increase. (This increase was attributable mainly to a 8.05 billion pound increase from 1999 to 2000. Two facilities accounted for most of this increase; one facility in Louisiana reported an increase of 5.72 billion pounds from 1999 to 2000 and one facility in Alabama reporting for the first time in 2000 reported a total of 2.09 billion pounds.)

The next largest absolute increase came from the primary metals industry, which reported an increase from 2.32 billion pounds in 1991 to 3.73 billion

Table 5-11: Total Production-related Waste Managed, Original (Manufacturing) Industries, by Industry, 1991, 1995, 1998-2000

SIC Code Industry	Total Production-related Waste Managed									
						Change 1999-2000		Change 1991-2000		
	1991 Pounds	1995 Pounds	1998 Pounds	1999 Pounds	2000 Pounds	Pounds	Percent	Pounds	Percent	
20 Food	33,999,041	54,141,374	73,327,309	64,806,206	65,282,265	476,059	0.7	31,283,224	92.0	
21 Tobacco	51,388,971	169,261	193,470	185,491	114,855	-70,636	-38.1	-51,274,116	-99.8	
22 Textiles	46,534,010	44,062,387	42,555,525	36,299,581	35,476,281	-823,300	-2.3	-11,057,729	-23.8	
23 Apparel	2,284,779	2,106,913	1,632,284	1,398,336	1,538,261	139,925	10.0	-746,518	-32.7	
24 Lumber	59,970,495	109,088,915	60,774,280	57,796,035	172,185,019	114,388,984	197.9	112,214,524	187.1	
25 Furniture	61,313,913	60,041,900	32,468,776	27,898,979	23,534,815	-4,364,164	-15.6	-37,779,098	-61.6	
26 Paper	1,381,509,976	1,309,447,550	1,279,224,236	1,351,217,732	1,284,744,343	-66,473,389	-4.9	-96,765,633	-7.0	
27 Printing	258,847,784	291,681,009	299,280,020	315,758,204	363,222,733	47,464,529	15.0	104,374,949	40.3	
28 Chemicals	6,857,485,226	7,305,301,562	8,429,285,235	8,978,153,622	17,030,948,445	8,052,794,823	89.7	10,173,463,219	148.4	
29 Petroleum	1,166,216,924	814,910,097	870,881,910	894,536,528	650,636,005	-243,900,523	-27.3	-515,580,919	-44.2	
30 Plastics	471,371,789	498,334,600	234,131,175	222,593,094	198,320,263	-24,272,831	-10.9	-273,051,526	-57.9	
31 Leather	17,878,399	7,025,037	6,361,954	10,896,245	14,138,655	3,242,410	29.8	-3,739,744	-20.9	
32 Stone/Clay/Glass	973,469,932	839,802,476	758,789,444	827,562,180	669,132,856	-158,429,324	-19.1	-304,337,076	-31.3	
33 Primary Metals	2,317,597,793	3,167,815,587	3,272,651,054	3,110,708,684	3,730,816,695	620,108,011	19.9	1,413,218,902	61.0	
34 Fabricated Metals	577,884,477	677,317,964	674,168,378	700,101,061	674,284,190	-25,816,871	-3.7	96,399,713	16.7	
35 Machinery	262,193,714	156,997,708	136,375,429	118,802,917	118,026,002	-776,914	-0.7	-144,167,712	-55.0	
36 Electrical Equip.	672,856,572	586,137,703	672,087,448	633,961,724	610,318,347	-23,643,377	-3.7	-62,538,225	-9.3	
37 Transportation Equip.	378,514,811	374,494,485	284,724,261	298,103,253	276,574,380	-21,528,873	-7.2	-101,940,431	-26.9	
38 Measure/Photo.	116,364,141	69,758,884	62,991,744	60,441,697	58,304,352	-2,137,345	-3.5	-58,059,789	-49.9	
39 Miscellaneous	67,631,917	49,513,834	48,102,733	46,406,012	39,786,012	-6,620,000	-14.3	-27,845,905	-41.2	
Multiple codes 20-39	1,914,392,898	1,272,915,429	871,706,223	879,093,234	1,027,164,630	148,071,397	16.8	-887,228,268	-46.3	
No codes 20-39	208,496,291	107,167,838	25,712,154	26,438,131	20,939,346	-5,498,785	-20.8	-187,556,945	-90.0	
Total	17,898,203,853	17,798,232,513	18,137,425,041	18,663,158,946	27,065,488,750	8,402,329,804	45.0	9,167,284,896	51.2	

Note: Does not include delisted chemicals, chemicals added in 1994 and 1995, ammonia, hydrochloric acid, PBT chemicals, sulfuric acid, vanadium and vanadium compounds. Data are from Section 8 (total of 8.1 through 8.7) of Form R of year indicated. Forms that reported more than one 2-digit SIC code within the range 20 to 39 are assigned to the "multiple codes" category. Forms with no 2-digit SIC code within the range 20 to 39 are assigned to the "no codes" category.



pounds in 2000, a 1.41 billion-pound (61.0 percent) net increase. The only other industries to report increases from 1991 to 2000 were the lumber industry (up 112.2 million pounds); the printing industry (up 104.4 million pounds); the fabricated metals industry (up 96.4 million pounds); and the food industry (up 31.3 million pounds).

The increase of 10.17 billion pounds in the chemical manufacturing industry alone offset modest declines throughout most other industries, creating a net total increase of 9.17 billion pounds for all original industries combined. The multiple-codes group reported the largest absolute reduction in total production-related waste managed, from 1.91 billion pounds in 1991 to 1.03 billion pounds in 2000. The reduction of about 887.2 million pounds represented a 46.3 percent decline. The petroleum industry reported the second-largest decline, from 1.17 billion pounds in 1991 to 650.6 million pounds in 2000, a net decrease of 515.6 million pounds, or 44.2 percent. The stone/clay/glass industry ranked

third among industries reporting reductions, reporting a decline of 304.3 million pounds from 1991 to 2000. Other significant declines were reported by the following industries: plastics (down 273.1 million pounds), no-codes (down 187.6 million pounds), machinery (down 144.2 million pounds), and transportation equipment (down 101.9 million pounds).

Economic Overview, by Industry, Multi-Year Comparisons

Table 5-12 presents production indexes for each industrial sector from 1991 to 2000. During this period, production increased 55.8 percent for U.S. manufacturing as a whole.

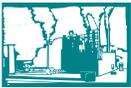
As shown in Table 5-12, overall manufacturing production continued to expand in 2000. However, several industry groups showed declines in production over 1999. Tobacco, textiles, leather and fabricated metals continued declines registered in 1998 or before. Lumber, paper, petroleum, plastics, stone/clay/glass, primary metals, machinery, and

Table 5-12: Industrial Production Indexes by Industry, 1990-2000

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Index	100.0	103.1	106.6	112.5	117.9	123.1	131.0	136.5	141.3	151.0
Manufacturing	100.0	104.0	107.8	114.3	120.4	126.1	135.2	141.8	147.9	155.8
SIC Code Industry										
20 Food	100.0	101.6	103.7	105.4	107.5	107.1	109.6	111.1	111.9	112.9
21 Tobacco	100.0	101.1	85.0	105.6	113.0	114.8	114.2	107.4	95.3	71.8
22 Textiles	100.0	107.9	113.6	119.3	118.9	117.3	120.7	119.6	119.6	87.7
23 Apparel	NA									
24 Lumber	100.0	105.8	106.7	112.1	114.2	116.5	121.7	125.4	128.7	111.3
25 Furniture	100.0	105.5	110.7	114.0	117.5	119.3	124.5	128.7	132.4	146.5
26 Paper	100.0	103.3	107.4	112.0	113.2	112.4	118.1	118.7	120.0	112.0
27 Printing	100.0	100.9	101.6	101.6	102.2	102.2	106.2	106.1	105.3	111.2
28 Chemicals	100.0	103.7	105.4	108.7	111.4	113.9	118.9	119.4	121.9	130.6
29 Petroleum	100.0	100.9	103.8	103.6	105.4	107.8	111.8	114.3	115.7	109.4
30 Plastics	100.0	110.3	117.9	128.4	132.0	135.9	141.6	146.9	151.8	151.6
31 Leather	100.0	101.6	102.6	95.1	88.3	88.9	85.0	78.4	70.9	69.6
32 Stone/clay/glass	100.0	102.9	105.0	111.0	114.3	117.9	124.0	127.3	130.6	130.5
33 Primary metals	100.0	103.4	108.7	117.7	120.2	123.7	131.0	129.9	130.9	121.0
34 Fabricated metals	100.0	104.0	108.5	116.6	121.0	124.9	131.1	133.9	133.8	137.2
35 Machinery	100.0	104.8	115.4	131.7	150.6	167.3	186.9	216.4	241.2	268.7
36 Electrical Equip.	100.0	111.6	122.1	145.6	184.9	230.6	290.2	351.7	435.5	718.3
37 Transportation Equip.	100.0	103.6	107.3	111.4	110.6	111.5	121.3	126.0	126.8	116.9
38 Measure/Photo.	100.0	100.2	101.0	100.0	103.8	107.8	109.8	112.8	116.7	123.9
39 Miscellaneous	100.0	101.6	107.4	111.8	115.5	120.7	127.9	119.2	129.4	133.3

Note: From 2000 Statistical Abstract of the United States, No. 1238. Industrial Production Indexes, by Industry: 1990 to 1999 (Source: <http://www.census.gov/prod/www/statistical-abstract-us.html>, accessed February 24, 2001) and Board of Governors of the Federal Reserve System, Industrial Production and Capacity Utilization, Statistical Release G17, Table 2a (<http://www.federalreserve.gov/releases/G17>).

NA - data not provided.



transportation equipment all showed declines from 1999 to 2000 where increases were recorded in prior years. The overall increase in manufacturing production was lead by the electrical/electronic equipment manufacturers (SIC code 36), while the food, furniture, printing, chemical manufacturing, measurement/photographic and miscellaneous manufacturing industries also showed increases.

Table 5-13 compares the change in manufacturing production since 1991 with the change in TRI quantities released on- and off-site and in TRI total production-related waste managed. As shown in Table 5-13, the quantity released on- and off-site steadily decreased (except for a very small increase between 1996 and 1997), even as manufacturing production expanded. Overall, while manufacturing production rose by 55.8 percent from 1991 to 2000, TRI facilities reported a decrease of 31.1 percent in quantity released on- and off-site.

Although the total quantity of production-related waste that TRI facilities managed rose from 1991 to 1999, the increase was considerably smaller than the nation's increase in manufacturing production. While manufacturing production increased 47.9 percent from 1991 to 1999, TRI production-related waste decreased in four years and increased in four years during that period for an overall increase of 4.3 percent.

However, TRI production-related waste saw a large increase from 1999 to 2000, of 45.0 percent while manufacturing production increased 7.9 percent during that same period. Two facilities in the chemical manufacturing industry accounted for most of the 8.40 billion pound increase from 1999 to 2000; one facility in Louisiana reported an increase of 5.72 billion pounds from 1999 to 2000 and one facility in Alabama reporting for the first time in 2000 reported a total of 2.09 billion pounds.

Table 5-13: Percentage Change in Manufacturing Production and in TRI Quantities in Waste Managed, 1991-2000

	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000
Manufacturing Production	4.0	3.8	6.5	6.0	5.7	9.1	6.5	6.1	7.9
TRI Quantity Released On- and Off-site	-8.4	-7.6	-1.2	-3.2	-1.6	0.4	-4.5	-4.5	-5.4
TRI Total Production-related Waste Managed	-2.4	-0.6	6.6	-3.8	-1.5	2.9	0.6	2.9	45.0

Note: From 2000 Statistical Abstract of the United States, No. 1238. Industrial Production Indexes, by Industry: 1990 to 1999 (Source: <http://www.census.gov/prod/www/statistical-abstract-us.html>, accessed February 24, 2001) and Board of Governors of the Federal Reserve System, Industrial Production and Capacity Utilization, Statistical Release G17, Table 2a (<http://www.federalreserve.gov/releases/G17>).