
Chemicals and Related Products

Stephen Wanser, Coordinator
(202) 205-3363
stephen.wanser@usitc.gov

Change in 2003 from 2002:

U.S. trade deficit: Increased by \$6.4 billion (42 percent) to \$21.6 billion
U.S. exports: Increased by \$10.6 billion (12 percent) to \$102.3 billion
U.S. imports: Increased by \$17.0 billion (16 percent) to \$123.9 billion

During 2002-03, the U.S. trade deficit in chemicals and related products increased primarily because of the sustained increase in medicinal chemical imports.¹ Although the United States registered a \$1.1-billion surplus in this sector in 1999, the U.S. trade surplus decreased to become a deficit in 2000 and the deficit increased annually thereafter. Increased imports of pharmaceuticals from Ireland and other Western European countries accounted for a large portion of the rise in total U.S. imports (see table CH-1). However, U.S. exports of chemicals and related products increased significantly in 2003, compared with 2002. This increase was a factor in slowing the rate of the increasing deficit in chemicals and related products.

The U.S. chemical industry is an integral part of the world chemical industry; many multinational chemical companies are U.S.-owned firms, producing chemicals and related compounds from various feed stocks in plants throughout the world.² As such, U.S.-owned firms are affected by global events both on the demand and the supply side.³ Over 50 percent of the products manufactured by the chemical industry are used in other manufacturing industries. In 2001, when U.S. and world manufacturing sectors entered an economic downturn, the demand for chemicals declined substantially and the industry's global growth halved by December 2001. During this period, end users relied on their chemical inventories. The world industrial economy remained stagnant through 2002. During 2001-02, the chemical industry was further adversely affected by volatile energy and feed stock prices throughout the world, political unrest in areas such as the Middle East, and the appreciation of the U.S. dollar. Fuel and feed stock (e.g., natural gas) costs rose in the United States during the period, thereby reducing the competitive position of U.S. firms (see Energy-Related Products).⁴ In 2003, business confidence grew, industrial production

¹ Medicinal chemicals include pharmaceutical active ingredients and formulated products. Structural factors that contribute to the expanding U.S. trade deficit in pharmaceuticals include low cost, production capacity in Europe meeting required standards for pharmaceutical products as the industry allocates its limited resources among R&D, marketing, and manufacturing. As the pharmaceutical industry has become more competitive in recent years, the industry has, at times, contracted (entered into joint ventures) with selected fine chemical (chemical intermediaries) companies to make some of their active ingredients. For added detail on the market dynamics of producing pharmaceuticals, see the link on the corresponding sector page.

² Similarly, many large foreign chemical companies have production facilities in the United States and elsewhere in North America.

³ T. Kevin Swift, Martha Moore, and Emily Myers, Economics & Statistics Department, American Chemistry Council, "The Business of Chemistry in the USA, Performance and Outlook," Nov. 2003; and "Forecast 2004: Tough Conditions Start to Ease," *Chemical Week*, Jan. 7-14, 2004, p. 17.

⁴ Ian Young, "Producers Grapple with Market Volatility," *Chemical Week*, Sept. 24, 2003, p. 35.

Table CH-1

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1999-2003¹

Item	1999	2000	2001	2002	2003	Change, 2003 from 2002	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
Canada	18,783	20,327	19,692	20,115	21,516	1,401	7.0
Ireland	755	1,252	1,120	1,270	1,391	121	9.5
Mexico	10,731	13,105	12,266	12,444	13,300	856	6.9
Japan	5,575	6,267	6,105	5,762	6,176	414	7.2
United Kingdom	3,566	4,355	5,806	5,179	5,089	-89	-1.7
Germany	2,947	2,977	3,059	2,886	3,769	883	30.6
China	2,149	2,430	2,315	3,069	3,816	747	24.3
France	2,509	2,852	3,032	3,185	3,488	303	9.5
Belgium	3,732	4,640	4,547	5,240	6,856	1,616	30.8
Netherlands	3,717	3,896	3,812	4,127	5,219	1,091	26.4
All other	26,776	30,334	29,520	28,425	31,710	3,285	11.6
Total	81,240	92,433	91,274	91,702	102,330	10,628	11.6
EU-15	20,336	23,166	24,711	25,058	29,275	4,217	16.8
OPEC	1,711	1,994	2,091	1,761	1,621	-139	-7.9
Latin America	18,634	22,175	21,664	20,713	21,913	1,200	5.8
CBERA	1,821	2,025	2,176	2,188	2,225	37	1.7
Asia	17,704	20,251	18,651	19,754	22,490	2,737	13.9
Sub-Saharan Africa	610	710	780	699	717	17	2.5
Central and Eastern Europe	243	287	304	278	333	54	19.6
U.S. imports of merchandise for consumption:							
Canada	13,708	15,858	16,398	16,673	18,440	1,767	10.6
Ireland	6,326	11,452	13,355	16,282	19,117	2,836	17.4
Mexico	3,124	3,473	3,388	3,637	3,779	142	3.9
Japan	8,869	9,563	8,601	9,099	10,121	1,022	11.2
United Kingdom	6,834	7,223	7,466	8,195	9,450	1,256	15.3
Germany	8,267	7,377	7,662	8,892	9,497	605	6.8
China	4,242	4,942	5,333	6,262	7,438	1,175	18.8
France	3,576	4,070	4,883	5,119	6,338	1,219	23.8
Belgium	1,889	1,670	2,090	2,054	1,895	-159	-7.7
Netherlands	1,306	1,492	1,541	1,523	1,681	159	10.4
All other	22,030	28,174	27,847	29,188	36,165	6,977	23.9
Total	80,172	95,295	98,564	106,924	123,922	16,999	15.9
EU-15	33,537	39,410	42,784	48,700	56,408	7,708	15.8
OPEC	3,245	5,590	4,742	5,024	6,944	1,920	38.2
Latin America	6,613	8,326	7,778	7,904	8,917	1,014	12.8
CBERA	892	1,286	1,312	1,109	1,724	615	55.4
Asia	18,815	21,341	20,777	22,768	26,810	4,042	17.8
Sub-Saharan Africa	849	1,454	660	448	598	150	33.5
Central and Eastern Europe	340	791	1,167	1,199	1,385	186	15.5

See footnote(s) at end of table.

Table CH-1--Continued

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1999-2003¹

Item	1999	2000	2001	2002	2003	Change, 2003 from 2002	
						Absolute	Percent
<i>Million dollars</i>							
U.S. merchandise trade balance:							
Canada	5,075	4,469	3,294	3,442	3,076	-366	-10.6
Ireland	-5,571	-10,201	-12,235	-15,012	-17,727	-2,715	-18.1
Mexico	7,607	9,632	8,878	8,807	9,521	714	8.1
Japan	-3,294	-3,296	-2,496	-3,337	-3,945	-608	-18.2
United Kingdom	-3,268	-2,868	-1,660	-3,016	-4,361	-1,345	-44.6
Germany	-5,321	-4,401	-4,603	-6,007	-5,728	278	4.6
China	-2,093	-2,512	-3,017	-3,193	-3,622	-429	-13.4
France	-1,067	-1,218	-1,851	-1,934	-2,850	-916	-47.4
Belgium	1,843	2,970	2,457	3,186	4,961	1,774	55.7
Netherlands	2,411	2,403	2,271	2,605	3,537	933	35.8
All other	4,746	2,159	1,672	-763	-4,455	-3,692	-483.9
Total	1,068	-2,862	-7,290	-15,222	-21,592	-6,371	-41.9
EU-15	-13,201	-16,244	-18,073	-23,642	-27,133	-3,491	-14.8
OPEC	-1,535	-3,596	-2,651	-3,263	-5,322	-2,059	-63.1
Latin America	12,021	13,849	13,886	12,809	12,996	187	1.5
CBERA	929	738	864	1,079	501	-578	-53.6
Asia	-1,111	-1,090	-2,126	-3,015	-4,320	-1,305	-43.3
Sub-Saharan Africa	-239	-744	120	251	118	-133	-52.9
Central and Eastern Europe	-97	-504	-863	-921	-1,052	-132	-14.3

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2003.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table CH-2
Leading changes in U.S. exports and imports of chemicals and related products, 1999-2003

Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
						Absolute	Percent
<i>Million dollars</i>							
U.S. EXPORTS:							
Increases:							
Medicinal chemicals (CH025)	13,701	15,772	18,169	18,742	22,527	3,785	20.2
Certain organic chemicals (CH012)	6,796	8,257	7,774	7,668	8,857	1,189	15.5
Organic specialty chemicals (CH011)	5,507	5,980	5,678	5,050	6,004	954	18.9
Decreases:							
Photographic chemicals and preparations (CH022) . . .	433	507	413	522	475	-47	-9.0
All other	54,802	61,917	59,242	59,720	64,466	4,747	7.9
TOTAL	81,240	92,433	91,274	91,702	102,330	10,628	11.6
U.S. IMPORTS:							
Increases:							
Medicinal chemicals (CH025)	23,782	29,112	33,956	40,699	49,284	8,586	21.1
Miscellaneous plastic products (CH041)	10,937	12,307	12,376	13,459	14,979	1,520	11.3
Fertilizers (CH016)	2,486	3,224	3,478	3,043	4,395	1,352	44.4
Decreases:							
Organic specialty chemicals (CH011)	6,145	6,610	6,962	6,781	6,675	-106	-1.6
All other	36,822	44,042	41,792	42,942	48,588	5,647	13.1
TOTAL	80,172	95,295	98,564	106,924	123,922	16,999	15.9

Note.-Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

increased, and downstream users started to replenish their inventories, thus leading to increased world chemical production, imports, and exports.⁵

In 2003, the major U.S. trading partners in chemicals and related products were Canada, Mexico, Ireland, and Japan. Canada and Mexico were the two largest markets for U.S. exports of these products, while Ireland, Canada, and Japan were the largest sources of U.S. imports (see table CH-1). The growth in Irish imports has resulted in part from continued investment in manufacturing facilities in pharmaceuticals and other high tech industries. The Industrial Development Agency of Ireland (IDA) has identified 6 new pharmaceutical facilities, including a \$1 billion expansion project by Wyeth Labs, and a 7 million British pound (\$11.2 million) investment by Glaxo SmithKline.⁶

U.S. trade with Mexico consisted mainly of primary olefins and aromatics imported from Mexico, while higher valued chemical products were exported back to Mexico. Canada has consistently exported commodity chemicals (derived from natural gas) to many countries, including the United States, while importing higher valued chemical products. During 2002-03, the United States imported almost \$1.4 billion of fertilizers from Canada, most derived from natural gas.

In 2003, U.S. exports of pharmaceuticals, certain organic chemicals and organic specialty chemicals exhibited the largest increases. The rise in U.S. exports of pharmaceuticals was owing, in part, to intracompany sales by multinational firms. Increased exports in other chemical sectors was owing to the lower valued dollar exchange rate, which boosted U.S. exports. The growth in exports occurred in 30 industry/commodity groups, while only 6 industry/commodity groups exhibited relatively modest declines in exports.

The increase in trade in 2003 was also shown in U.S. chemical imports, with 30 industry/commodity groups increasing, while only 4 industry/commodity groups declined. The largest increases in U.S. imports were medicinal chemicals (discussed below), miscellaneous plastic products, and fertilizers, while the largest declines were in organic specialty chemicals (see table CH-2).

U.S. imports of fertilizers increased 44 percent in 2003 over 2002, with anhydrous ammonia accounting for almost half of the increase. The average ammonia price increased from \$137 per short ton in 2002 to \$245 per short ton in 2003⁷ owing to an increase in natural gas prices, high ocean freight rates, and increased world demand for nitrogen (a component of ammonia).⁸ By quantity, U.S. imports of ammonia increased from 5.7 million metric tons in 2002 to 7.0 million metric tons in 2003, replacing U.S. production that was curtailed in the beginning of the year.⁹

⁵ Swift, Moore, and Myers, "The Business of Chemistry in the USA, Performance and Outlook," Nov. 2003, p. 16.

⁶ Van Amum, Patricia, "U.S. Faces Rising Pharmaceutical Trade Deficit."

⁷ Based on statistics of the U.S. Geological Survey.

⁸ U.S. industry representative, communication with USITC staff, Apr. 26, 2004.

⁹ U.S. Geological Survey, communication with USITC staff, Apr. 26, 2004.

COMMODITY ANALYSIS OF MEDICINAL CHEMICALS

Change in 2003 from 2002:

U.S. trade deficit: Increased by \$4.8 billion (22 percent) to \$26.8 billion

U.S. exports: Increased by \$3.8 billion (20 percent) to \$22.5 billion

U.S. imports: Increased by \$8.6 billion (21 percent) to \$49.3 billion

The U.S. trade deficit in pharmaceuticals increased in 2003, with Western Europe (especially Ireland) continuing to be the major source of U.S. imports of pharmaceuticals.¹⁰ In general, global trade of pharmaceuticals has increased since January 1, 1995, following the elimination of duties on most medicinal chemicals under the Uruguay Round Agreement. The United States, the United Kingdom, Germany, Ireland, Japan, and several other large pharmaceutical-producing countries participated in this agreement. As the world pharmaceutical industry is dominated by multinational corporations, there is substantial intracompany trade.

Outsourcing in the pharmaceutical industry is a factor in trade. The production of bulk active ingredients and chemical intermediates used in the production of drugs is often produced in highly specialized processes in a limited number of facilities.¹¹ Pharmaceutical companies, rather than dedicating their equipment to making product, will contract their production needs to independent specialty producers throughout the world. Their product requirements can range from relatively small to large quantities, and the contract producers can manufacture these chemicals in a timely manner.¹²

In 2003, some new and innovative medicines were introduced in the United States and many other developed countries. Such products command high sales prices, which may also account for the increase in the value of total U.S. exports of pharmaceuticals. In total, 86 new medicines were introduced in 2003, including 21 new drugs, 14 biologics, and 51 additional new medicines. Among these were six new cancer drugs and seven new medicines for genetic disorders.¹³

U.S. imports

U.S. imports of pharmaceuticals increased by \$8.6 billion (21 percent) to \$49.3 billion in 2003. U.S. imports from Ireland, the United Kingdom, and Germany (the three largest U.S. suppliers by value, in 2003), increased 14 percent (to \$16.2 billion), by 18 percent (to \$6.4 billion), and by 2 percent (to \$4.3 billion), respectively. These three countries accounted for 55 percent of total U.S. imports of pharmaceutical products.

The United Kingdom and Germany have benefitted from the trend toward outsourcing in the pharmaceutical industry and have become larger suppliers to the U.S. market over the past several years. These countries are attractive sites for contract manufacturing because of the large number of prominent multinational pharmaceutical companies (as well as large research-oriented chemical firms) active in these two countries and their reputations for well-trained organic chemists.

During the past decade, Ireland has also been a growing source of pharmaceutical imports owing, in part, to a national tax policy favorable to research-oriented corporations, with the most significant growth in high technology areas such as pharmaceuticals. It has been reported that 17 of the 20 leading

¹⁰ The absolute size of the deficit in pharmaceuticals is sufficiently large that it is a major contributor to the U.S. trade deficit in chemicals and related products.

¹¹ With increasing returns to scale, only a few facilities are needed to perform certain specialized processes.

¹² Stephen C. Stinson, "Custom Chemicals," *Chemical & Engineering News*, Jan. 19, 1999, pp. 49-52.

¹³ "New Drug Approvals in 2003," PhRMA press release, Jan. 2004.

multinational drug companies worldwide have established manufacturing facilities in Ireland.¹⁴ Because production costs are low, Ireland's pharmaceuticals and related products are highly price competitive in the U.S. market.¹⁵ During 1999-2003, U.S. imports of pharmaceuticals from Ireland increased from \$5.2 billion to \$16.2 billion, owing, in part, to intracompany trade.¹⁶

U.S. exports

U.S. exports of pharmaceuticals increased by \$3.8 billion (20 percent) to \$22.5 billion during 2002-03. The top-three markets for U.S. pharmaceuticals (by value) were Canada, the Netherlands, and the United Kingdom. Overall, the combination of higher drug prices, increasing demand by aging populations, and industry globalization has led to the continued rise in U.S. exports.

Stephen Wanser
(202) 205-3363
stephen.wanser@usitc.gov

¹⁴ According to the Industrial Development Agency of Ireland (IDA), "over 120 overseas companies employ 15,000 people and export \$12 billion annually, making Ireland one of the largest exporters of pharmaceuticals and fine chemicals in the world," found at <http://www.corporateinformation.com/iesector>, retrieved Mar. 20, 2002.

¹⁵ The replacement value of the investment by the pharmaceutical sector in Ireland is estimated at 40 billion Euros. Investment in fine chemical plants producing bulk active materials has been followed by new investments in finished product pharmaceutical operations. Forty finished pharmaceutical plants are now in operation. Found at http://www.idaireland.com/industry/pharmaceutical_industry.asp, retrieved Mar. 25, 2004.

¹⁶ To further place this increase in perspective, as a percent of total U.S. pharmaceutical imports, Germany's share decreased from 14 percent in 1995 to 7 percent in 2003, and the United Kingdom's share decreased from 19 percent to 13 percent, while Ireland's share increased from 7 percent to 33 percent.

Table CH-3

Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 1999-2003¹

USITC code ²	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
CH007	Major primary olefins:							
	Exports	181	299	120	245	217	-28	-11.4
	Imports	1,798	3,552	2,913	3,397	4,144	747	22.0
	Trade balance	-1,617	-3,253	-2,793	-3,152	-3,927	-775	-24.6
CH008	Other olefins:							
	Exports	208	264	311	260	343	84	32.2
	Imports	91	156	143	113	127	14	12.1
	Trade balance	117	108	168	147	217	70	47.7
CH009	Primary aromatics:							
	Exports	91	105	122	148	368	220	148.9
	Imports	815	1,563	1,122	1,159	1,450	291	25.1
	Trade balance	-724	-1,459	-1,000	-1,011	-1,082	-71	-7.0
CH010	Organic commodity chemicals:							
	Exports	1,474	2,146	1,494	2,010	2,692	682	33.9
	Imports	778	1,201	1,021	1,111	1,319	208	18.7
	Trade balance	696	946	474	898	1,373	474	52.8
CH011	Organic specialty chemicals:							
	Exports	5,507	5,980	5,678	5,050	6,004	954	18.9
	Imports	6,145	6,610	6,962	6,781	6,675	-106	-1.6
	Trade balance	-638	-630	-1,285	-1,731	-671	1,060	61.2
CH012	Certain organic chemicals:							
	Exports	6,796	8,257	7,774	7,668	8,857	1,189	15.5
	Imports	3,899	5,049	5,148	4,699	4,878	179	3.8
	Trade balance	2,897	3,207	2,626	2,969	3,979	1,010	34.0
CH013	Miscellaneous inorganic chemicals:							
	Exports	4,357	5,218	4,940	4,820	4,903	83	1.7
	Imports	4,632	5,431	5,195	4,948	5,038	89	1.8
	Trade balance	-275	-212	-255	-128	-135	-7	-5.2
CH014	Inorganic acids:							
	Exports	204	246	242	214	219	5	2.4
	Imports	238	251	252	246	229	-17	-6.8
	Trade balance	-34	-5	-9	-32	-10	22	68.9
CH015	Chlor-alkali chemicals:							
	Exports	781	862	1,054	851	897	46	5.4
	Imports	126	162	219	166	206	40	24.1
	Trade balance	655	700	835	685	691	6	0.9
CH016	Fertilizers:							
	Exports	3,036	2,388	2,183	2,184	2,429	245	11.2
	Imports	2,486	3,224	3,478	3,043	4,395	1,352	44.4
	Trade balance	550	-836	-1,295	-859	-1,966	-1,107	-129.0
CH017	Paints, inks, and related items, and certain components thereof:							
	Exports	3,327	3,802	3,546	3,614	3,918	304	8.4
	Imports	1,959	2,119	2,090	1,996	2,078	82	4.1
	Trade balance	1,368	1,683	1,455	1,618	1,840	222	13.7
CH018	Synthetic organic pigments:							
	Exports	360	373	329	331	332	1	0.4
	Imports	404	358	301	319	333	15	4.6
	Trade balance	-43	16	29	12	-1	-13	(³)

See footnote(s) at end of table.

Table CH-3--Continued

Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 1999-2003¹

USITC code ²	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
CH019	Synthetic dyes and azoic couplers:							
	Exports	404	436	361	249	226	-23	-9.4
	Imports	527	481	378	393	395	3	0.7
	Trade balance	-123	-45	-16	-143	-169	-26	-18.1
CH020	Synthetic tanning agents:							
	Exports	13	18	17	18	32	14	76.4
	Imports	7	7	5	7	8	2	28.7
	Trade balance	6	11	12	12	24	12	102.7
CH021	Natural tanning and dyeing materials:							
	Exports	21	24	26	27	26	-1	-3.7
	Imports	71	73	65	54	63	9	15.9
	Trade balance	-50	-49	-40	-27	-36	-10	-35.9
CH022	Photographic chemicals and preparations:							
	Exports	433	507	413	522	475	-47	-9.0
	Imports	564	555	479	435	382	-53	-12.2
	Trade balance	-131	-48	-66	87	93	6	6.9
CH023	Pesticide products and formulations:							
	Exports	2,212	2,038	2,166	2,028	2,316	288	14.2
	Imports	1,217	1,117	1,318	1,185	1,419	233	19.7
	Trade balance	995	921	848	842	897	55	6.5
CH024	Adhesives and glues:							
	Exports	502	602	565	588	600	12	2.1
	Imports	181	194	176	206	251	45	21.9
	Trade balance	321	408	388	382	349	-33	-8.6
CH025	Medicinal chemicals:							
	Exports	13,701	15,772	18,169	18,742	22,527	3,785	20.2
	Imports	23,782	29,112	33,956	40,699	49,284	8,586	21.1
	Trade balance	-10,081	-13,340	-15,788	-21,957	-26,757	-4,800	-21.9
CH026	Essential oils and other flavoring materials:							
	Exports	948	1,034	1,109	1,211	1,389	178	14.7
	Imports	754	775	736	786	1,754	968	123.1
	Trade balance	194	258	373	425	-365	-790	(³)
CH027	Perfumes, cosmetics, and toiletries:							
	Exports	2,578	2,851	3,187	3,160	3,435	275	8.7
	Imports	1,864	2,192	2,443	2,716	3,111	395	14.5
	Trade balance	714	659	744	444	324	-119	-26.9
CH028	Soaps, detergents, and surface-active agents:							
	Exports	2,138	2,331	2,223	2,282	2,524	242	10.6
	Imports	948	1,050	1,115	1,273	1,369	95	7.5
	Trade balance	1,190	1,280	1,107	1,009	1,156	147	14.6
CH029	Miscellaneous chemicals and specialties:							
	Exports	2,557	2,756	2,862	2,901	3,149	248	8.5
	Imports	1,860	2,020	1,856	1,957	2,150	193	9.9
	Trade balance	697	735	1,006	944	999	55	5.8

See footnote(s) at end of table.

Table CH-3--Continued

Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 1999-2003¹

USITC code ²	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
CH030	Explosives, propellant powders, and related items:							
	Exports	264	314	254	286	385	100	34.9
	Imports	267	265	285	302	353	50	16.5
	Trade balance	-3	49	-31	-17	33	50	(³)
CH031	Polyethylene resins in primary forms:							
	Exports	2,249	2,688	2,416	2,590	2,817	227	8.8
	Imports	1,329	1,650	1,735	1,651	2,158	507	30.7
	Trade balance	920	1,038	681	938	658	-280	-29.9
CH032	Polypropylene resins in primary forms:							
	Exports	863	1,131	1,100	1,188	1,416	228	19.2
	Imports	232	251	219	259	298	39	15.1
	Trade balance	630	880	881	929	1,118	189	20.4
CH033	Polyvinyl chloride resins in primary forms:							
	Exports	626	716	1,004	781	837	56	7.2
	Imports	235	331	332	247	287	40	16.1
	Trade balance	391	385	672	534	550	16	3.0
CH034	Styrene polymers in primary forms:							
	Exports	753	848	731	752	783	31	4.1
	Imports	427	572	579	580	628	48	8.2
	Trade balance	326	276	152	172	155	-16	-9.6
CH035	Saturated polyester resins:							
	Exports	566	629	798	712	814	101	14.2
	Imports	448	522	502	537	656	119	22.1
	Trade balance	118	107	296	175	158	-18	-10.0
CH036	Other plastics in primary forms:							
	Exports	6,323	7,305	6,766	7,189	7,694	505	7.0
	Imports	2,455	2,786	2,649	2,823	3,022	199	7.0
	Trade balance	3,868	4,519	4,117	4,366	4,673	306	7.0
CH037	Styrene-butadiene rubber in primary forms:							
	Exports	309	344	297	273	324	52	19.0
	Imports	173	232	258	232	231	(⁴)	-0.2
	Trade balance	137	112	39	41	93	52	128.6
CH038	Other synthetic rubber:							
	Exports	1,079	1,317	1,328	1,361	1,478	117	8.6
	Imports	697	778	734	725	741	16	2.2
	Trade balance	382	539	594	636	737	100	15.8
CH039	Pneumatic tires and tubes (new):							
	Exports	2,366	2,414	2,282	2,233	2,212	-21	-0.9
	Imports	4,559	4,700	4,146	4,694	5,170	476	10.1
	Trade balance	-2,193	-2,286	-1,864	-2,460	-2,957	-497	-20.2
CH040	Other tires:							
	Exports	111	89	96	94	98	4	3.9
	Imports	129	137	122	123	137	14	11.4
	Trade balance	-18	-48	-26	-29	-39	-10	-36.1

See footnote(s) at end of table.

Table CH-3--Continued

Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 1999-2003¹

USITC code ²	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
		<i>Million dollars</i>						
CH041	Miscellaneous plastic products:							
	Exports	11,729	13,804	12,561	12,567	13,041	473	3.8
	Imports	10,937	12,307	12,376	13,459	14,979	1,520	11.3
	Trade balance	792	1,497	185	-892	-1,938	-1,047	-117.4
CH042	Miscellaneous rubber products:							
	Exports	2,068	2,419	2,645	2,437	2,400	-37	-1.5
	Imports	2,328	2,567	2,549	2,752	3,040	288	10.5
	Trade balance	-259	-148	96	-315	-641	-326	-103.3
CH043	Gelatin:							
	Exports	63	66	74	75	92	17	22.7
	Imports	107	103	94	96	115	19	20.0
	Trade balance	-44	-37	-20	-21	-23	-2	-10.6
CH044	Natural rubber:							
	Exports	41	39	34	40	59	19	48.7
	Imports	704	842	613	751	1,047	296	39.4
	Trade balance	-664	-803	-579	-712	-988	-277	-38.9

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

²This coding system is used by the U.S. International Trade Commission to identify major groupings and subgroupings of HTS import and export items for trade monitoring purposes

³Not meaningful for purposes of comparison.

⁴Less than \$500,000.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table CH-4

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH007	Major primary olefins:						
	Number of establishments	37	37	37	37	37	0.0
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	98	97	92	95	95	0.0
	U.S. shipments (million dollars)	17,000	18,500	17,500	19,000	19,500	2.6
	U.S. exports (million dollars)	181	299	120	245	217	-11.4
	U.S. imports (million dollars)	1,798	3,552	2,913	3,397	4,144	22.0
	Apparent U.S. consumption (million dollars)	18,617	21,753	20,293	22,152	23,427	5.8
	Trade balance (million dollars)	-1,617	-3,253	-2,793	-3,152	-3,927	-24.6
	Ratio of imports to consumption (percent)	9.7	16.3	14.4	15.3	17.7	15.7
	Ratio of exports to shipments (percent)	1.1	1.6	0.7	1.3	1.1	-15.4
CH008	Other olefins:						
	Number of establishments	23	23	23	23	23	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	98	97	95	97	97	0.0
	U.S. shipments (million dollars)	1,350	1,500	1,500	1,650	1,800	9.1
	U.S. exports (million dollars)	208	264	311	260	343	32.2
	U.S. imports (million dollars)	91	156	143	113	127	12.1
	Apparent U.S. consumption (million dollars)	1,233	1,392	1,332	1,503	1,583	5.3
	Trade balance (million dollars)	117	108	168	147	217	47.7
	Ratio of imports to consumption (percent)	7.4	11.2	10.7	7.5	8.0	6.7
	Ratio of exports to shipments (percent)	15.4	17.6	20.7	15.7	19.1	21.7
CH009	Primary aromatics:						
	Number of establishments	31	31	31	31	31	0.0
	Employees (thousands)	2.0	2.0	2.0	2.0	2.0	0.0
	Capacity utilization (percent)	80	85	85	85	85	0.0
	U.S. shipments (million dollars)	4,250	5,300	4,900	5,000	5,300	6.0
	U.S. exports (million dollars)	91	105	122	148	368	148.9
	U.S. imports (million dollars)	815	1,563	1,122	1,159	1,450	25.1
	Apparent U.S. consumption (million dollars)	4,974	6,759	5,900	6,011	6,382	6.2
	Trade balance (million dollars)	-724	-1,459	-1,000	-1,011	-1,082	-7.0
	Ratio of imports to consumption (percent)	16.4	23.1	19.0	19.3	22.7	17.6
	Ratio of exports to shipments (percent)	2.1	2.0	2.5	3.0	6.9	130.0

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH014	Inorganic acids:						
	Number of establishments	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Employees (thousands)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Capacity utilization (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	U.S. shipments (million dollars)	(¹)	2,276	1,852	(¹)	(¹)	(¹)
	U.S. exports (million dollars)	204	246	242	214	219	2.4
	U.S. imports (million dollars)	238	251	252	246	229	-6.8
	Apparent U.S. consumption (million dollars)	(¹)	2,281	1,861	(¹)	(¹)	(¹)
	Trade balance (million dollars)	-34	-5	-9	-32	-10	68.9
	Ratio of imports to consumption (percent)	(¹)	11.0	13.5	(¹)	(¹)	(¹)
	Ratio of exports to shipments (percent)	(¹)	10.8	13.1	(¹)	(¹)	(¹)
CH015	Chlor-alkali chemicals:						
	Number of establishments	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Employees (thousands)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Capacity utilization (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	U.S. shipments (million dollars)	3,015	3,396	3,210	(¹)	(¹)	(¹)
	U.S. exports (million dollars)	781	862	1,054	851	897	5.4
	U.S. imports (million dollars)	126	162	219	166	206	24.1
	Apparent U.S. consumption (million dollars)	2,360	2,696	2,375	(¹)	(¹)	(¹)
	Trade balance (million dollars)	655	700	835	685	691	0.9
	Ratio of imports to consumption (percent)	5.3	6.0	9.2	(¹)	(¹)	(¹)
	Ratio of exports to shipments (percent)	25.9	25.4	32.8	(¹)	(¹)	(¹)
CH016	Fertilizers:						
	Number of establishments	350	350	350	350	350	0.0
	Employees (thousands)	23.0	22.0	22.0	22.0	22.0	0.0
	Capacity utilization (percent)	90	78	76	82	82	0.0
	U.S. shipments (million dollars)	8,000	7,500	7,000	7,500	8,000	6.7
	U.S. exports (million dollars)	3,036	2,388	2,183	2,184	2,429	11.2
	U.S. imports (million dollars)	2,486	3,224	3,478	3,043	4,395	44.4
	Apparent U.S. consumption (million dollars)	7,450	8,336	8,295	8,359	9,966	19.2
	Trade balance (million dollars)	550	-836	-1,295	-859	-1,966	-129.0
	Ratio of imports to consumption (percent)	33.4	38.7	41.9	36.4	44.1	21.2
	Ratio of exports to shipments (percent)	37.9	31.8	31.2	29.1	30.4	4.5

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH017	Paints, inks, and related items, and certain components thereof:						
	Number of establishments	1,490	1,475	1,470	1,450	1,445	-0.3
	Employees (thousands)	15.0	16.0	16.0	15.0	16.0	6.7
	Capacity utilization (percent)	85	88	85	85	86	1.2
	U.S. shipments (million dollars)	24,000	25,000	25,600	26,000	2,660	-89.8
	U.S. exports (million dollars)	3,327	3,802	3,546	3,614	3,918	8.4
	U.S. imports (million dollars)	1,959	2,119	2,090	1,996	2,078	4.1
	Apparent U.S. consumption (million dollars)	22,632	23,317	24,145	24,382	820	-96.6
	Trade balance (million dollars)	1,368	1,683	1,455	1,618	1,840	13.7
	Ratio of imports to consumption (percent)	8.7	9.1	8.7	8.2	² 253.5	2,991.5
	Ratio of exports to shipments (percent)	13.9	15.2	13.9	13.9	² 147.3	959.7
CH018	Synthetic organic pigments:						
	Number of establishments	32	32	32	32	32	0.0
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	85	85	80	80	75	-6.3
	U.S. shipments (million dollars)	1,050	1,100	1,100	1,110	1,100	-0.9
	U.S. exports (million dollars)	360	373	329	331	332	⁽³⁾
	U.S. imports (million dollars)	404	358	301	319	333	4.6
	Apparent U.S. consumption (million dollars)	1,093	1,084	1,071	1,098	1,101	⁽³⁾
	Trade balance (million dollars)	-43	16	29	12	-1	⁽⁴⁾
	Ratio of imports to consumption (percent)	36.9	33.0	28.1	29.0	30.3	4.5
	Ratio of exports to shipments (percent)	34.3	33.9	29.9	29.8	30.2	1.3
CH019	Synthetic dyes and azoic couplers:						
	Number of establishments	32	32	32	32	32	0.0
	Employees (thousands)	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent)	85	85	80	80	75	-6.3
	U.S. shipments (million dollars)	1,230	1,320	1,320	1,320	1,320	0.0
	U.S. exports (million dollars)	404	436	361	249	226	-9.4
	U.S. imports (million dollars)	527	481	378	393	395	0.7
	Apparent U.S. consumption (million dollars)	1,353	1,365	1,336	1,463	1,489	1.8
	Trade balance (million dollars)	-123	-45	-16	-143	-169	-18.1
	Ratio of imports to consumption (percent)	38.9	35.3	28.3	26.8	26.5	-1.1
	Ratio of exports to shipments (percent)	32.8	33.0	27.4	18.9	17.1	-9.5

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH020	Synthetic tanning agents:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	85	85	80	80	75	-6.3
	U.S. shipments (million dollars)	22	24	24	24	24	0.0
	U.S. exports (million dollars)	13	18	17	18	32	76.4
	U.S. imports (million dollars)	7	7	5	7	8	28.7
	Apparent U.S. consumption (million dollars)	16	13	12	12	0	-100.0
	Trade balance (million dollars)	6	11	12	12	24	102.7
	Ratio of imports to consumption (percent)	45.3	55.5	41.4	53.6	-402,507.7	1,000.0
	Ratio of exports to shipments (percent)	60.4	76.3	70.2	76.5	² 135.0	76.5
CH021	Natural tanning and dyeing materials:						
	Number of establishments	10	10	10	10	10	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	85	85	80	80	75	-6.3
	U.S. shipments (million dollars)	30	30	30	30	30	0.0
	U.S. exports (million dollars)	21	24	26	27	26	-3.7
	U.S. imports (million dollars)	71	73	65	54	63	15.9
	Apparent U.S. consumption (million dollars)	80	79	70	57	66	17.0
	Trade balance (million dollars)	-50	-49	-40	-27	-36	-35.9
	Ratio of imports to consumption (percent)	88.6	91.9	93.9	95.4	94.6	-0.8
	Ratio of exports to shipments (percent)	69.7	78.6	85.8	91.3	88.0	-3.6
CH022	Photographic chemicals and preparations:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	85	85	80	80	75	-6.3
	U.S. shipments (million dollars)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	U.S. exports (million dollars)	433	507	413	522	475	-9.0
	U.S. imports (million dollars)	564	555	479	435	382	-12.2
	Apparent U.S. consumption (million dollars)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Trade balance (million dollars)	-131	-48	-66	87	93	6.9
	Ratio of imports to consumption (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Ratio of exports to shipments (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH023	Pesticide products and formulations:						
	Number of establishments	55	55	55	55	23	-58.2
	Employees (thousands)	14.0	14.0	14.0	14.0	1.0	-92.9
	Capacity utilization (percent)	85	85	85	85	97	14.1
	U.S. shipments (million dollars)	10,260	9,790	9,350	9,350	1,800	-80.7
	U.S. exports (million dollars)	2,212	2,038	2,166	2,028	2,316	14.2
	U.S. imports (million dollars)	1,217	1,117	1,318	1,185	1,419	19.7
	Apparent U.S. consumption (million dollars)	9,265	8,869	8,502	8,508	903	-89.4
	Trade balance (million dollars)	995	921	848	842	897	6.5
	Ratio of imports to consumption (percent)	13.1	12.6	15.5	13.9	² 157.1	1,030.2
	Ratio of exports to shipments (percent)	21.6	20.8	23.2	21.7	² 128.7	493.1
CH024	Adhesives and glues:						
	Number of establishments	500	500	500	500	500	0.0
	Employees (thousands)	13.0	13.0	13.0	13.0	13.0	0.0
	Capacity utilization (percent)	85	85	85	80	80	0.0
	U.S. shipments (million dollars)	5,000	5,100	5,200	5,000	5,000	0.0
	U.S. exports (million dollars)	502	602	565	588	600	2.1
	U.S. imports (million dollars)	181	194	176	206	251	21.9
	Apparent U.S. consumption (million dollars)	4,679	4,692	4,812	4,618	4,651	0.7
	Trade balance (million dollars)	321	408	388	382	349	-8.6
	Ratio of imports to consumption (percent)	3.9	4.1	3.7	4.5	5.4	20.0
	Ratio of exports to shipments (percent)	10.0	11.8	10.9	11.8	12.0	1.7
CH025	Medicinal chemicals:						
	Number of establishments	718	718	718	715	715	0.0
	Employees (thousands)	208.0	208.0	208.0	208.0	208.0	0.0
	Capacity utilization (percent)	85	85	85	85	75	-11.8
	U.S. shipments (million dollars)	91,800	105,600	107,000	107,000	107,010	0.0
	U.S. exports (million dollars)	13,701	15,772	18,169	18,742	22,527	20.2
	U.S. imports (million dollars)	23,782	29,112	33,956	40,699	49,284	21.1
	Apparent U.S. consumption (million dollars)	101,881	118,940	122,788	128,957	133,767	3.7
	Trade balance (million dollars)	-10,081	-13,340	-15,788	-21,957	-26,757	-21.9
	Ratio of imports to consumption (percent)	23.3	24.5	27.7	31.6	36.8	16.5
	Ratio of exports to shipments (percent)	14.9	14.9	17.0	17.5	21.1	20.6

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH026	Essential oils and other flavoring materials:						
	Number of establishments	53	53	53	53	53	0.0
	Employees (thousands)	51.0	50.0	50.0	50.0	50.0	0.0
	Capacity utilization (percent)	82	82	82	82	82	0.0
	U.S. shipments (million dollars)	3,400	3,500	3,500	3,700	3,900	5.4
	U.S. exports (million dollars)	948	1,034	1,109	1,211	1,389	14.7
	U.S. imports (million dollars)	754	775	736	786	1,754	123.1
	Apparent U.S. consumption (million dollars)	3,206	3,242	3,127	3,275	4,265	30.2
	Trade balance (million dollars)	194	258	373	425	-365	(⁴)
	Ratio of imports to consumption (percent)	23.5	23.9	23.5	24.0	41.1	71.3
	Ratio of exports to shipments (percent)	27.9	29.5	31.7	32.7	35.6	8.9
CH027	Perfumes, cosmetics, and toiletries:						
	Number of establishments	650	650	650	650	650	0.0
	Employees (thousands)	59.0	60.0	59.0	60.0	62.0	3.3
	Capacity utilization (percent)	88	87	87	87	88	1.1
	U.S. shipments (million dollars)	21,500	23,000	23,300	23,000	24,000	4.3
	U.S. exports (million dollars)	2,578	2,851	3,187	3,160	3,435	8.7
	U.S. imports (million dollars)	1,864	2,192	2,443	2,716	3,111	14.5
	Apparent U.S. consumption (million dollars)	20,786	22,341	22,556	22,556	23,676	5.0
	Trade balance (million dollars)	714	659	744	444	324	-26.9
	Ratio of imports to consumption (percent)	9.0	9.8	10.8	12.0	13.1	9.2
	Ratio of exports to shipments (percent)	12.0	12.4	13.7	13.7	14.3	4.4
CH028	Soaps, detergents, and surface-active agents:						
	Number of establishments	950	950	950	950	950	0.0
	Employees (thousands)	52.0	52.0	52.0	52.0	52.0	0.0
	Capacity utilization (percent)	88	87	87	87	85	-2.3
	U.S. shipments (million dollars)	17,700	18,500	19,500	19,800	21,000	6.1
	U.S. exports (million dollars)	2,138	2,331	2,223	2,282	2,524	10.6
	U.S. imports (million dollars)	948	1,050	1,115	1,273	1,369	7.5
	Apparent U.S. consumption (million dollars)	16,510	17,220	18,393	18,791	19,844	5.6
	Trade balance (million dollars)	1,190	1,280	1,107	1,009	1,156	14.6
	Ratio of imports to consumption (percent)	5.7	6.1	6.1	6.8	6.9	1.5
	Ratio of exports to shipments (percent)	12.1	12.6	11.4	11.5	12.0	4.3

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH030	Explosives, propellant powders, and related items:						
	Number of establishments	125	122	120	118	115	-2.5
	Employees (thousands)	13.0	13.0	13.0	13.0	13.0	0.0
	Capacity utilization (percent)	87	85	84	85	85	0.0
	U.S. shipments (million dollars)	2,000	2,080	2,110	2,200	2,285	3.9
	U.S. exports (million dollars)	264	314	254	286	385	34.9
	U.S. imports (million dollars)	267	265	285	302	353	16.5
	Apparent U.S. consumption (million dollars)	2,003	2,031	2,141	2,217	2,252	1.6
	Trade balance (million dollars)	-3	49	-31	-17	33	(⁴)
	Ratio of imports to consumption (percent)	13.3	13.0	13.3	13.6	15.7	15.4
	Ratio of exports to shipments (percent)	13.2	15.1	12.0	13.0	16.9	30.0
CH031	Polyethylene resins in primary forms:						
	Number of establishments	45	46	46	46	46	0.0
	Employees (thousands)	22.0	22.0	22.0	22.0	22.0	0.0
	Capacity utilization (percent)	89	88	83	87	85	-2.3
	U.S. shipments (million dollars)	9,400	10,500	9,100	9,000	10,500	16.7
	U.S. exports (million dollars)	2,249	2,688	2,416	2,590	2,817	8.8
	U.S. imports (million dollars)	1,329	1,650	1,735	1,651	2,158	30.7
	Apparent U.S. consumption (million dollars)	8,480	9,462	8,419	8,062	9,842	22.1
	Trade balance (million dollars)	920	1,038	681	938	658	-29.9
	Ratio of imports to consumption (percent)	15.7	17.4	20.6	20.5	21.9	6.8
	Ratio of exports to shipments (percent)	23.9	25.6	26.6	28.8	26.8	-6.9
CH032	Polypropylene resins in primary forms:						
	Number of establishments	26	27	28	28	28	0.0
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	91	88	84	93	95	2.2
	U.S. shipments (million dollars)	4,400	4,500	4,000	4,500	4,700	4.4
	U.S. exports (million dollars)	863	1,131	1,100	1,188	1,416	19.2
	U.S. imports (million dollars)	232	251	219	259	298	15.1
	Apparent U.S. consumption (million dollars)	3,770	3,620	3,119	3,571	3,582	(³)
	Trade balance (million dollars)	630	880	881	929	1,118	20.4
	Ratio of imports to consumption (percent)	6.2	6.9	7.0	7.2	8.3	15.3
	Ratio of exports to shipments (percent)	19.6	25.1	27.5	26.4	30.1	14.0

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH033	Polyvinyl chloride resins in primary forms:						
	Number of establishments	28	28	28	27	27	0.0
	Employees (thousands)	8.0	8.0	8.0	7.0	7.0	0.0
	Capacity utilization (percent)	95	84	81	91	87	-4.4
	U.S. shipments (million dollars)	3,700	4,200	3,500	4,000	3,800	-5.0
	U.S. exports (million dollars)	626	716	1,004	781	837	7.2
	U.S. imports (million dollars)	235	331	332	247	287	16.1
	Apparent U.S. consumption (million dollars)	3,309	3,815	2,828	3,466	3,250	-6.2
	Trade balance (million dollars)	391	385	672	534	550	3.0
	Ratio of imports to consumption (percent)	7.1	8.7	11.7	7.1	8.8	23.9
	Ratio of exports to shipments (percent)	16.9	17.1	28.7	19.5	22.0	12.8
CH034	Styrene polymers in primary forms:						
	Number of establishments	69	69	70	71	71	0.0
	Employees (thousands)	11.0	11.0	11.0	12.0	12.0	0.0
	Capacity utilization (percent)	89	94	80	82	80	-2.4
	U.S. shipments (million dollars)	5,500	5,900	5,200	5,700	5,500	-3.5
	U.S. exports (million dollars)	753	848	731	752	783	4.1
	U.S. imports (million dollars)	427	572	579	580	628	8.2
	Apparent U.S. consumption (million dollars)	5,174	5,624	5,048	5,528	5,345	-3.3
	Trade balance (million dollars)	326	276	152	172	155	-9.6
	Ratio of imports to consumption (percent)	8.2	10.2	11.5	10.5	11.7	11.4
	Ratio of exports to shipments (percent)	13.7	14.4	14.0	13.2	14.2	7.6
CH035	Saturated polyester resins:						
	Number of establishments	52	52	52	54	55	1.9
	Employees (thousands)	6.0	6.0	6.0	7.0	7.0	0.0
	Capacity utilization (percent)	82	85	85	85	85	0.0
	U.S. shipments (million dollars)	4,800	5,500	5,200	5,500	5,800	5.5
	U.S. exports (million dollars)	566	629	798	712	814	14.2
	U.S. imports (million dollars)	448	522	502	537	656	22.1
	Apparent U.S. consumption (million dollars)	4,682	5,393	4,904	5,325	5,642	6.0
	Trade balance (million dollars)	118	107	296	175	158	-10.0
	Ratio of imports to consumption (percent)	9.6	9.7	10.2	10.1	11.6	14.9
	Ratio of exports to shipments (percent)	11.8	11.4	15.3	13.0	14.0	7.7

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH037	Styrene-butadiene rubber in primary forms:						
	Number of establishments	11	11	11	11	11	0.0
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	88	88	90	92	92	0.0
	U.S. shipments (million dollars)	1,390	1,460	1,430	1,490	1,490	0.0
	U.S. exports (million dollars)	309	344	297	273	324	19.0
	U.S. imports (million dollars)	173	232	258	232	231	-0.2
	Apparent U.S. consumption (million dollars)	1,253	1,348	1,391	1,449	1,397	-3.6
	Trade balance (million dollars)	137	112	39	41	93	128.6
	Ratio of imports to consumption (percent)	13.8	17.2	18.6	16.0	16.6	3.8
	Ratio of exports to shipments (percent)	22.2	23.6	20.8	18.3	21.8	19.1
CH038	Other synthetic rubber:						
	Number of establishments	34	34	34	34	(¹)	(¹)
	Employees (thousands)	11.0	11.0	11.0	11.0	(¹)	(¹)
	Capacity utilization (percent)	82	83	83	83	(¹)	(¹)
	U.S. production (million dollars)	4,180	4,380	4,290	4,300	(¹)	(¹)
	U.S. exports (million dollars)	1,079	1,317	1,328	1,361	1,478	8.6
	U.S. imports (million dollars)	697	778	734	725	741	2.2
	Apparent U.S. consumption (million dollars)	3,798	3,841	3,696	3,664	(¹)	(¹)
	Trade balance (million dollars)	382	539	594	636	737	15.8
	Ratio of imports to consumption (percent)	18.4	20.2	19.9	19.8	(¹)	(¹)
	Ratio of exports to production (percent)	25.8	30.1	31.0	31.7	(¹)	(¹)
CH039	Pneumatic tires and tubes (new):						
	Number of establishments	42	42	42	42	42	0.0
	Employees (thousands)	64.0	66.0	63.0	64.0	64.0	0.0
	Capacity utilization (percent)	92	93	90	90	90	0.0
	U.S. shipments (million dollars)	13,950	14,600	13,400	13,500	13,500	0.0
	U.S. exports (million dollars)	2,366	2,414	2,282	2,233	2,212	-0.9
	U.S. imports (million dollars)	4,559	4,700	4,146	4,694	5,170	10.1
	Apparent U.S. consumption (million dollars)	16,143	16,886	15,264	15,960	16,457	3.1
	Trade balance (million dollars)	-2,193	-2,286	-1,864	-2,460	-2,957	-20.2
	Ratio of imports to consumption (percent)	28.2	27.8	27.2	29.4	31.4	6.8
	Ratio of exports to shipments (percent)	17.0	16.5	17.0	16.5	16.4	-0.6

See footnote(s) at end of table.

Table CH-4—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
CH040	Other tires:						
	Number of establishments	1,400	1,400	1,400	1,400	1,400	0.0
	Employees (thousands)	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent)	90	90	90	90	90	0.0
	U.S. shipments (million dollars)	990	1,000	1,100	1,100	1,100	0.0
	U.S. exports (million dollars)	111	89	96	94	98	3.9
	U.S. imports (million dollars)	129	137	122	123	137	11.4
	Apparent U.S. consumption (million dollars)	1,008	1,048	1,126	1,129	1,139	0.9
	Trade balance (million dollars)	-18	-48	-26	-29	-39	-36.1
	Ratio of imports to consumption (percent)	12.8	13.1	10.8	10.9	12.0	10.1
	Ratio of exports to shipments (percent)	11.2	8.9	8.8	8.6	8.9	3.5
CH044	Natural rubber:						
	Number of establishments	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Employees (thousands)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Capacity utilization (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	U.S. shipments (million dollars)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	U.S. exports (million dollars)	41	39	34	40	59	48.7
	U.S. imports (million dollars)	704	842	613	751	1,047	39.4
	Apparent U.S. consumption (million dollars)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Trade balance (million dollars)	-664	-803	-579	-712	-988	-38.9
	Ratio of imports to consumption (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
	Ratio of exports to shipments (percent)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

¹Not available.

²Inventory changes, for which data are not available, likely account for ratios that exceed 100 percent.

³Less than 0.05 percent.

⁴Not meaningful.

Note.—Calculations based on unrounded data.

Source: These data have been estimated by the Commission's international trade analysts on the basis of primary and secondary data sources including discussions with various Government and industry contacts. These estimated data are subject to change either from secondary sources or from detailed surveys the Commission often conducts in the course of statutory investigations or other work. Further, these data may undergo adjustments based on revisions in tariff nomenclature, classification practices, or redefinitions of industry classes.