

Petrochemical Industry of Japan

2012

Japan Petrochemical Industry Association

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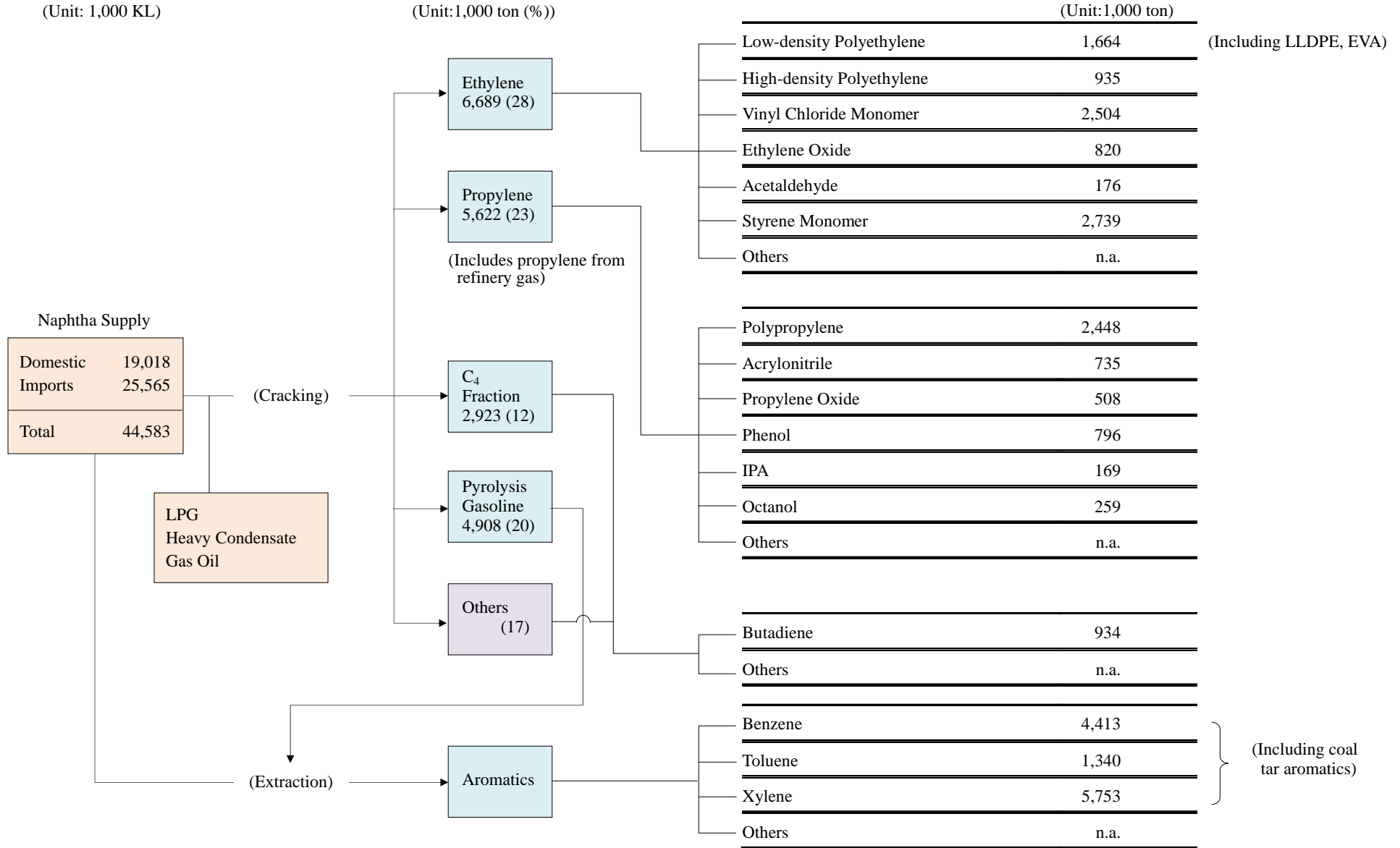
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Material Flow (2011)

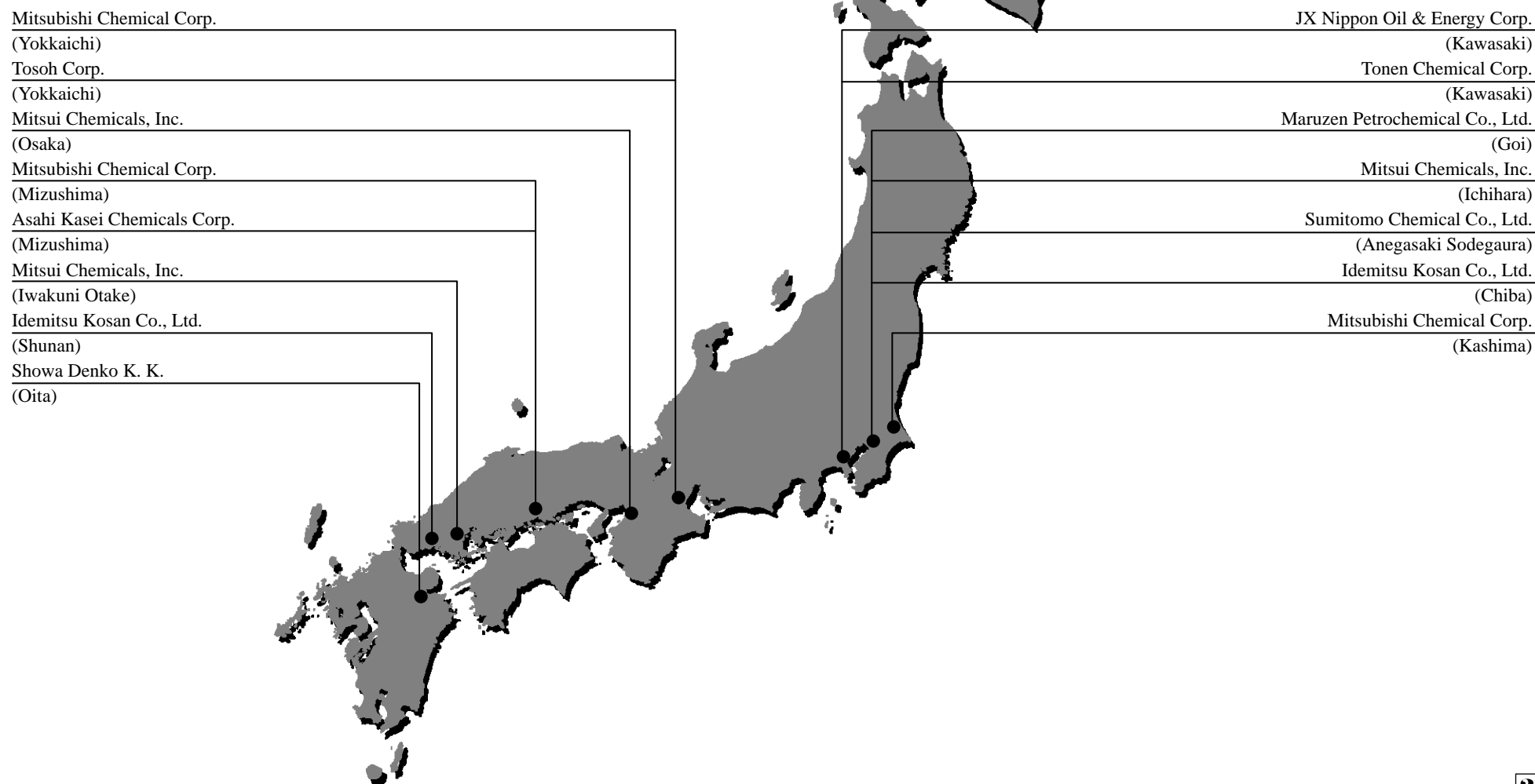
(Unit: 1,000 KL)

(Unit: 1,000 ton (%))

(Unit: 1,000 ton)



Geographical Locations of Petrochemical Complexes



Production Capacity (as of December, 2010)

(in 1,000 metric tons)

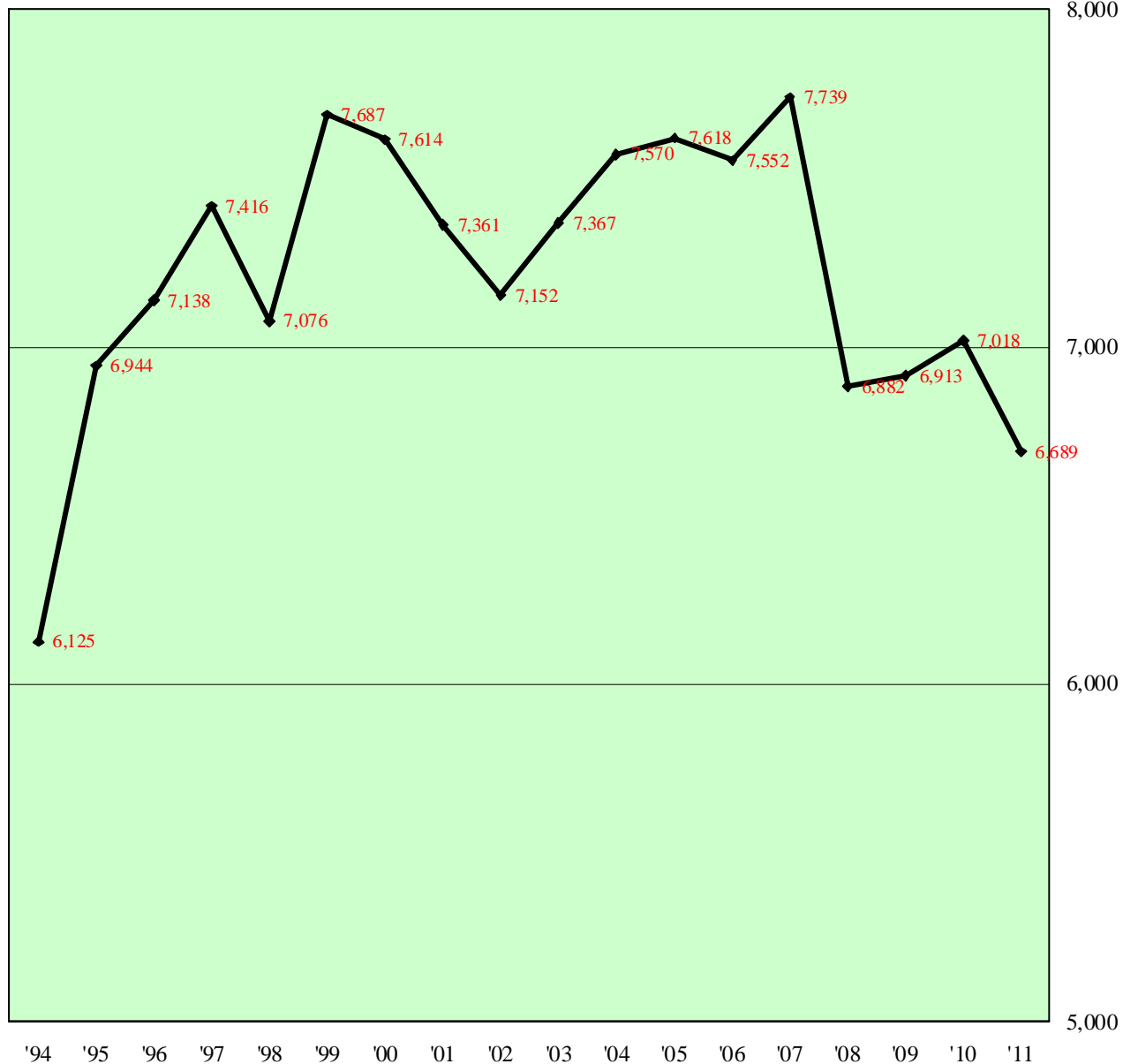
Product		Capacity	Note
Ethylene		7,216	
Benzene		6,716	
Toluene		2,318	
Xylene		7,808	
Para-xylene		3,935	
Low-density Polyethylene		2,322	Including LLDPE, EVA
High-density Polyethylene		1,335	
Polypropylene		3,329	
Polystyrene		906	GP · HI
Polyvinyl Chloride		2,115	
Ethylene Oxide		907	
Acrylonitrile		726	
Pure Terephthalic Acid		915	
Synthetic Rubbers	SBR	594	
	BR	269	
Styrene Monomer		3,278	
Vinyl Chloride Monomer		3,515	
Acetaldehyde		289	
Acetic Acid		538	

Ethylene Production

(in 1,000 metric tons)

Year	Production	Annual Growth (%)
'94	6,125	6
'95	6,944	13
'96	7,138	3
'97	7,416	4
'98	7,076	▲ 5
'99	7,687	9
'00	7,614	▲ 1
'01	7,361	▲ 3
'02	7,152	▲ 3
'03	7,367	3
'04	7,570	3
'05	7,618	1
'06	7,522	▲ 1
'07	7,739	3
'08	6,882	▲ 11
'09	6,913	0
'10	7,018	2
'11	6,689	▲ 5

(in 1,000 metric tons)



Production of Petrochemicals

(in 1,000 metric tons)

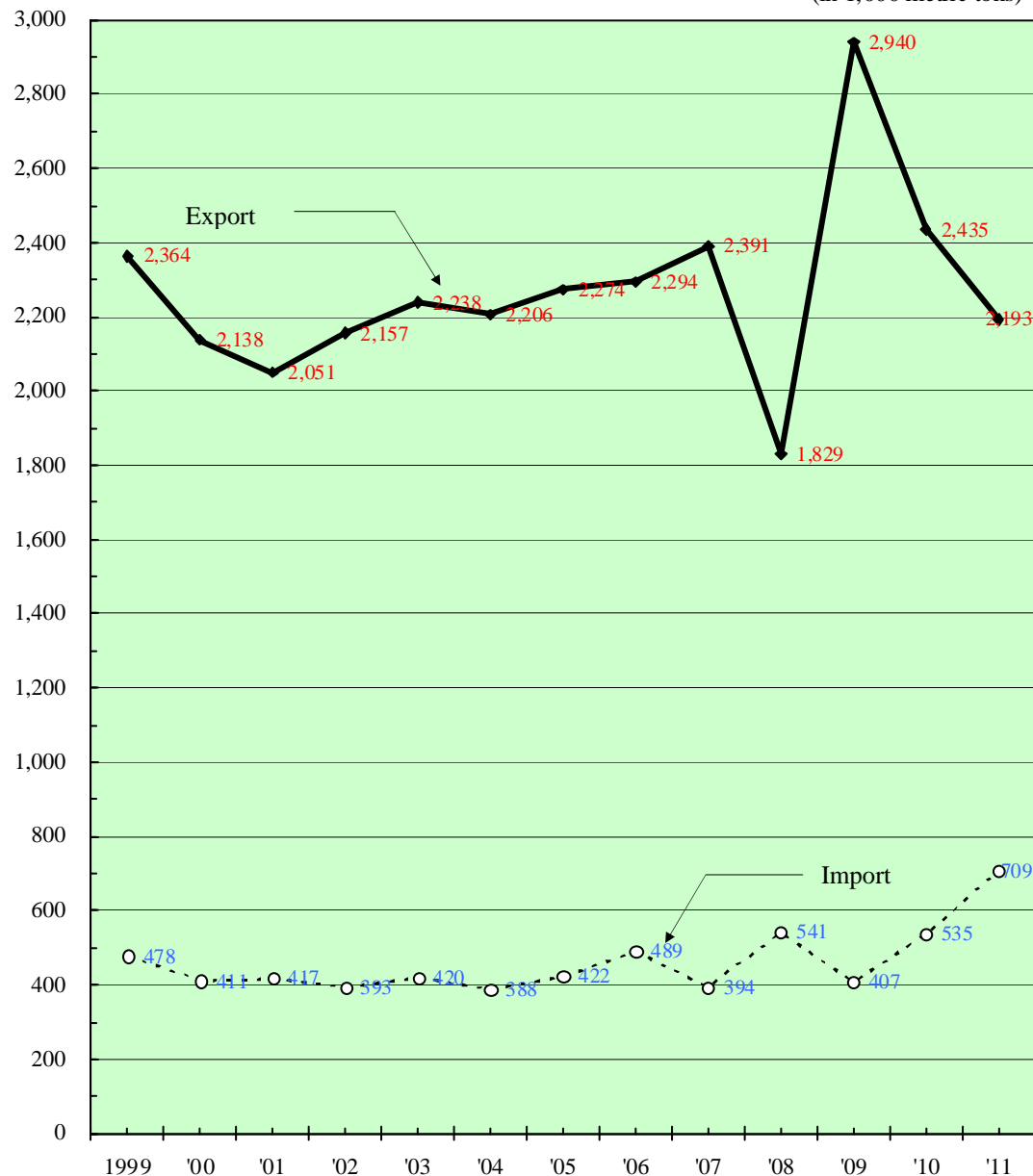
		2004	2005	2006	2007	2008	2009	2010	2011	
Basic Products	Ethylene	7,570	7,618	7,522	7,739	6,882	6,913	7,018	6,689	
	Propylene	5,767	6,030	6,090	6,286	5,674	5,591	5,986	5,622	
	Butadiene	1,041	1,040	1,002	1,024	953	871	977	934	
	Benzene	4,758	4,980	4,874	5,245	4,581	4,259	4,764	4,413	
	Toluene	1,634	1,676	1,633	1,637	1,437	1,415	1,393	1,340	
	Xylene	5,395	5,570	5,727	6,006	5,698	5,628	5,935	5,753	
Plastics	Low-density Polyethylene	1,847	1,899	1,876	1,878	1,818	1,605	1,704	1,664	
	EVA	219	212	221	219	218	215	244	235	
	High-density Polyethylene	1,172	1,129	1,069	1,135	1,052	986	1,015	935	
	Polypropylene	2,908	3,063	3,049	3,087	2,870	2,411	2,709	2,448	
	Polystyrene	GP · HI	975	926	932	908	829	690	698	654
		FS	176	169	171	168	144	114	124	125
		SAN	134	134	119	125	126	92	109	78
		ABS	540	505	523	547	495	348	454	418
Polyvinyl Chloride	2,153	2,151	2,146	2,162	1,797	1,668	1,749	1,529		
Synthetic Fiber Feedstocks	Ethylene Oxide	941	1,005	974	966	865	759	845	820	
	Ethylene Glycol	786	841	763	754	629	581	596	581	
	Acrylonitrile	711	742	667	743	600	602	663	735	
	Caprolactam	503	458	467	467	432	342	422	397	
	Para-xylene	3,164	3,358	3,357	3,301	3,039	3,218	3,177	3,202	
	Pure Terephthalic Acid	1,531	1,472	1,432	1,254	1,015	893	1,131	885	
Synthetic Rubbers	Styrene-butadiene Rubber	711	727	710	727	706	527	670	665	
	Butadiene Rubber	283	289	289	294	290	254	294	275	
	Others	622	611	608	633	655	519	631	671	
Others	Styrene Monomer	3,345	3,392	3,295	3,533	2,847	2,996	2,939	2,739	
	Vinyl Chloride Monomer	2,977	3,038	3,228	3,142	2,763	2,996	2,935	2,504	
	Acetaldehyde	347	365	342	367	281	232	197	176	
	Acetic Acid	589	599	597	587	500	384	450	418	
	Octanol	307	279	280	270	259	267	286	259	
	Acetone	539	546	531	593	491	477	521	471	
	Phenol	966	938	860	961	772	786	853	796	
	Propylene Oxide	512	504	541	520	489	469	501	508	
Polypropylene Glycol	346	339	344	343	308	240	284	265		

Export/Import Balance as Ethylene Equivalent

(in 1,000 metric tons)

Year	Export (A)	Import (B)	Net Export (A-B)	Export Ratio (%)	Import Ratio (%)
'99	2,364	478	1,886	30.8	8.2
'00	2,138	411	1,727	28.1	7.0
'01	2,051	417	1,634	27.9	7.3
'02	2,157	393	1,764	30.2	7.3
'03	2,238	420	1,818	30.4	7.6
'04	2,206	388	1,818	29.1	6.7
'05	2,270	422	1,848	29.8	7.3
'06	2,294	489	1,805	30.5	8.6
'07	2,391	394	1,996	30.9	6.9
'08	1,829	541	1,287	26.6	9.7
'09	2,940	407	2,533	42.5	9.3
'10	2,435	535	1,901	34.7	10.4
'11	2,193	709	1,484	32.8	13.6

(in 1,000 metric tons)



Exports

(in metric tons)

	2004	2005	2006	2007	2008	2009	2010	2011
Low-density Polyethylene	232,066	222,004	211,912	210,980	188,581	302,885	241,688	175,753
High-density Polyethylene	192,341	155,044	164,890	176,713	139,077	275,157	237,597	179,830
Polypropylene	415,527	467,051	456,026	516,510	387,845	486,274	453,833	386,191
Polystyrene	113,202	88,581	82,146	99,961	84,054	63,740	55,918	52,147
ABS Resin	256,661	224,408	205,633	213,103	191,738	124,800	157,925	135,182
Polyvinyl Chloride	689,279	740,285	766,244	860,923	594,486	728,418	682,772	454,468
Styrene Monomer	1,340,848	1,451,553	1,378,024	1,628,083	1,132,468	1,593,313	1,398,480	1,275,641
Vinyl Chloride Monomer	734,330	823,657	1,028,251	902,431	898,844	1,270,632	1,110,526	925,823
Ethylene Glycol	170,449	238,448	167,698	167,471	44,420	175,586	75,177	147,304
Acetic Acid	57,562	47,166	41,656	56,204	45,973	35,423	28,235	32,093
Ethyl Acetate	29,784	55,058	30,751	45,034	9,637	14,560	1,600	879
Acrylonitrile	185,996	170,664	121,566	169,747	116,977	262,168	212,336	288,087
Acetone	75,501	64,737	84,473	116,547	74,316	124,030	90,771	52,672
Methylethyl Ketone	123,147	132,699	126,654	154,764	112,869	133,604	129,590	69,406
Octanol	78,580	78,899	88,719	64,210	71,718	118,621	121,280	95,975
Ethylene	304,569	273,568	299,249	282,868	196,496	587,897	459,333	542,981
Propylene	356,978	388,633	507,987	492,904	510,126	832,568	743,002	710,177
Benzene	299,507	312,893	247,460	218,245	411,619	224,687	325,400	240,059
Toluene	120,911	167,329	235,260	274,583	232,843	396,878	309,341	187,051
Mixed Xylene	240,525	205,994	232,295	373,647	293,581	343,937	373,529	312,288
Para-xylene	2,008,367	2,259,500	2,289,993	2,348,409	2,284,503	2,535,043	2,332,603	2,551,234
Phenol	86,590	110,002	96,112	197,287	153,260	255,978	216,820	188,791
Terephthalic Acid	574,429	544,099	509,707	317,386	171,359	296,478	331,583	156,260
Dimethyl Terephthalate	3,779	3,415	3,217	3,121	2,091	7,936	10,721	15,255
Phthalic Anhydride	73,482	66,048	30,224	24,527	28,742	39,744	41,584	34,920
Caprolactam	261,492	214,080	238,195	233,553	195,213	192,162	239,295	220,657
Synthetic Rubbers	578,524	516,922	545,521	601,467	574,357	625,474	753,439	699,712

Imports

(in metric tons)

	2004	2005	2006	2007	2008	2009	2010	2011
Low-density Polyethylene	181,541	205,338	200,531	197,007	261,037	177,237	245,565	339,338
High-density Polyethylene	15,080	29,056	16,104	10,834	27,467	30,423	47,825	97,909
Polypropylene	115,572	124,546	99,863	110,342	194,211	115,225	145,892	197,213
Polystyrene	5,883	9,618	10,034	2,740	7,193	12,938	20,770	33,686
Polyvinyl Chloride	3,767	7,435	10,555	7,359	8,872	10,760	5,659	30,707
Styrene Monomer	11,975	12,420	11,865	9,768	2,995	2,815	54	219
Ethylene Dichloride	184,775	152,684	318,409	221,010	43,461	232,873	215,895	140,182
Ethylene Glycol	35,750	20,909	24,513	18,077	19,809	2,083	9,277	47,139
Acrylonitrile	62,475	44,144	40,891	35,893	37,428	4,762	6,754	6,753
Propylene Glycol	11,504	13,114	15,794	16,927	19,690	21,442	18,517	14,806
Acetone	23,743	30,060	46,802	41,418	31,953	8,253	6,647	22,437
Butanol	25,706	14,450	3,562	2,841	3,374	4,153	1,030	10,959
Benzene	218,628	247,813	339,383	269,427	162,254	271,461	90,029	133,501
Toluene	168,309	76,368	16,626	93,859	76,941	105,084	32,422	67,873
Mixed Xylene*	106,404	110,589	41,566	7,927	0	0	0	0
Para-xylene	-	-	-	-	-	-	9,925	14,844
Phenol	954	71,886	118,430	89,498	101,955	25,960	42,282	32,444
Ethylene	75,964	88,959	103,991	55,489	142,445	41,756	60,344	41,942
Propylene	37,306	30,336	9,209	6,917	85,462	21,067	21,508	5,119
Butadiene	22,779	14,695	35,431	26,693	55,263	9,432	30,212	22,667
Synthetic Rubbers	159,267	179,758	180,497	194,081	211,256	138,369	172,289	200,925

* Including Crude Xylene

Plastics Production

(in 1,000 metric tons)

	2004	2005	2006	2007	2008	2009	2010	2011
Low-density Polyethylene	1,847	1,899	1,876	1,878	1,818	1,605	1,704	1,664
EVA	219	212	221	219	218	215	244	235
High-density Polyethylene	1,172	1,129	1,069	1,135	1,052	986	1,015	935
Polypropylene	2,908	3,063	3,049	3,087	2,869	2,411	2,709	2,448
Polystyrene	GP • HI	975	926	932	908	829	690	654
	FS	176	169	171	168	143	114	124
	SAN	134	134	119	125	126	92	109
	ABS	540	505	523	547	495	348	418
Polyvinyl Chloride	2,153	2,151	2,146	2,162	1,797	1,668	1,749	1,529
Polyvinyl Alcohol	200	203	213	230	215	192	241	233
Vinyliden Chloride Resin	71	68	68	75	74	68	n.a.	n.a
Methacrylate Resin	282	289	269	247	219	166	216	203
Polyamide Resin	251	266	273	274	277	189	230	234
Others	1,650	1,645	1,644	1,606	1,490	1,072	1,517	1,334
Thermoplastic Resin Total	12,578	12,659	12,573	12,661	11,696	9,884	11,010	10,090
Phenol Resin	287	280	284	295	288	227	284	276
Urea Resin	115	124	116	110	94	73	68	71
Melamine Resin	154	152	141	141	111	90	91	77
Unsaturated Polyester Resin	187	181	168	164	149	117	120	114
Urethane Foam	251	249	249	235	222	163	180	173
Others	307	300	318	325	296	214	262	238
Thermosetting Resin Total	1,301	1,286	1,276	1,269	1,159	884	1,005	949
Others	205	200	201	194	186	147	228	179
Grand Total	14,084	14,145	14,050	14,124	12,967	10,847	12,242	11,219

Major Plastics Domestic Demand Breakdowns (2011)

(in 1,000 metric tons)

Market	L. D. Polyethylene		H. D. Polyethylene		Polypropylene	
	Volume	Percentage	Volume	Percentage	Volume	Percentage
Film	654	48.9	206	26.1	496	21.6
Laminating	254	19.0				
Oriented Tape (Flat Yarn)			23	2.9	26	1.1
Injection Molding	77	5.7	95	12.0	1,206	52.6
Blow Molding	42	3.1	175	22.1	18	0.8
Fiber			39	4.9	106	4.6
Pipe	22	1.6	56	7.1		
Wire and Cable	63	4.7				
Others	228	17.0	196	24.8	440	19.2
Domestic Total	1,338	100.0	789	100.0	2,292	100.0

Market	Polystyrene (GP • HI)	
	Volume	Percentage
Electric and Industrial Equipment	114	17.6
Packaging	304	46.8
Miscellaneous, Others	68	10.5
FS	164	25.3
Domestic Total	649	100.0

Market	Polyvinyle Chloride	
	Volume	Percentage
Rigid PVC	588	56.6
Plasticized PVC	260	25.0
Wire and Others	192	18.5
Domestic Total	1,039	100.0

Production of Spun Yarns

(in metric tons)

	2004	2005	2006	2007	2008	2009	2010	2011
Nylon Yarn	1,240	1,184	1,073	967	765	512	534	n.a.
Vinylon Yarn	6,239	6,408	6,155	6,369	5,453	3,918	4,459	n.a.
Acrylic Yarn	24,412	17,864	16,324	16,334	14,088	10,297	10,847	10,643
Polyester Yarn	44,392	38,750	36,293	33,249	31,382	19,372	18,289	18,161
Others	1,540	1,369	1,274	1,196	1,011	800	795	6,604
Synthetic Fiber Yarn Total	77,823	65,575	61,119	58,115	52,699	34,899	34,924	35,408
Natural Yarn Total	135,152	119,993	106,782	98,896	88,849	62,376	62,112	61,189
Grand Total	212,975	185,568	167,901	157,011	141,548	97,275	97,036	96,597

Production of Synthetic Rubbers

(in 1,000 metric tons)

	2004	2005	2006	2007	2008	2009	2010	2011
Styrene-butadiene Rubber	711	727	710	727	706	527	670	665
Butadiene Rubber	283	289	289	294	290	254	294	275
Nitrile-butadiene Rubber	105	106	99	109	109	86	115	109
Chloroprene Rubber	100	106	110	112	115	89	130	135
Ethylene Propylene Rubber	209	189	191	187	224	149	193	197
Others	208	210	208	225	207	195	193	230
Total	1.616	1,627	1,607	1,655	1,651	1,300	1,595	1,611

The Members of the Association (As of May, 2012)

Company	Address	Phone	URL
Sumitomo Chemical Co., Ltd.	Tokyo Sumitomo Twin Bldg (East), 2-27-1, Shinkawa, Chuo-ku, Tokyo 104-8260, Japan	+81-3-5543-5500	http://www.sumitomo-chem.co.jp/english/
JX Nippon Oil & Energy Corp.	6-3, Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8162, Japan	+81-3-6275-5057	http://www.no.ejx-group.co.jp/english/
Maruzen Petrochemical Co., Ltd.	Sanshin Hatchobori Bldg., 2-25-10, Hatchobori, Chuo-ku, Tokyo 104-8502, Japan	+81-3-3552-9361	http://www.chemiway.co.jp/en/index.html
Mitsui Chemicals, Inc.	Shiodome City Center, 1-5-2, Higashi-shimbashi, Minato-ku, Tokyo 105-7117, Japan	+81-3-6253-2100	http://www.mitsuichem.com/index.htm
JSR Corp.	Shiodome Sumitomo Bldg., 1-9-2, Higashi-Shinbashi, Minato-ku, Tokyo 105-8640, Japan	+81-3-6218-3500	http://www.jsr.co.jp/jsr_e/
Nippon Shokubai Co., Ltd.	Kogin Bldg., 4-1-1, Koraibashi, Chuo-ku, Osaka 541-0043, Japan Hibiya Dai Bldg., 1-2-2, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011, Japan	+81-6-6223-9111 +81-3-3506-7475	http://www.shokubai.co.jp/en/
ZEON Corp.	Shin Marunouchi Center Bldg., 1-6-2, Marunouchi, Chiyoda-ku, Tokyo 100-8246, Japan	+81-3-3216-1772	http://www.zeon.co.jp/index_e.html
Mitsubishi Chemical Corp.	1-1, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-8251, Japan	+81-3-6748-7300	http://www.m-kagaku.co.jp/index_en.htm
Tonen Chemical Corp.	W Bldg., 1-8-15, Konan, Minato-ku, Tokyo 105-8005, Japan	+81-3-5495-6000	http://www.tonengeneral.co.jp/apps/tonengeneral/english/index.html
Nippon Unicar Co., Ltd.	8-1 Ukishima-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0862, Japan	+81-44-299-5711	http://www.unicar.jp/
JNC Corp.	Shin Otemachi Bldg., 9F, 2-2-1 Otemachi, Chiyoda-ku, Tokyo 100-8105, Japan	+81-3-3243-6760	http://www.jnc-corp.co.jp/english/index.html

Company	Address	Phone	URL
Showa Denko K.K.	1-13-9, Shiba Daimon, Minato-ku, Tokyo 105-8518, Japan	+81-3-5470-3235	http://www.sdk.co.jp/english/
Mitsubishi Rayon Co., Ltd.	1-1, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-8253, Japan	+81-3-6748-7500	http://www.mrc.co.jp/english/index.html
Du Pont-Mitsui Polychemicals Co., Ltd.	Shiodome City Center, 1-5-2, Higashi-shimbashi, Minato-ku, Tokyo 105-7117, Japan	+81-3-6253-4000	http://www.mdp.jp
Idemitsu Kosan Co., Ltd.	3-1-1, Marunouchi, Chiyoda-ku, Tokyo 100-8321, Japan	+81-3-3213-3115	http://www.idemitsu.com/
Asahi Kasei Chemicals Corp.	1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101, Japan	+81-3-3296-3200	http://www.asahi-kasei.co.jp/asahi/en/index.html
Daicel Chemical Industries, Ltd.	Mainichi Intecio., 3-4-5, Umeda, Kita-ku, Osaka 530-0001, Japan	+81-6-6342-6111	http://www.daicel.com/en/
	JR Shinagawa East Bldg., 2-18-1, Konan, Minato-ku, Tokyo 108-8230, Japan	+81-3-6711-8111	
Denki Kagaku Kogyo K.K.	Nihonbashi Mitsui Tower, 2-1-1, Nihonbashi-Muromachi, Chuo-ku, Tokyo 103-8338, Japan	+81-3-5290-5055	http://www.denka.co.jp/eng/top.htm
Ube Industries Ltd.	Seavans North Bldg., 1-2-1, Shibaura, Minato-ku, Tokyo 105-8449, Japan	+81-3-5419-6110	http://www.ube-ind.co.jp/english/index.htm
	1978-96, Kogushi, Ube-shi, Yamaguchi 755-8633, Japan	+81-836-31-2111	
Tosoh Corp.	Shiba-koen First Bldg., 3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan	+81-3-5427-5118	http://www.tosoh.com/
Nippon Steel Chemical Co., Ltd	Akihabara UDX, 13F, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan	+81-3-5207-7600	http://www.nsc.co.jp/english/index.html

Company	Address	Phone	URL
DIC Corp.	DIC Bldg., 3-7-20, Nihonbashi, Chuo-ku, Tokyo 103-8233, Japan	+81-3-3272-4511	http://www.dic-global.com/en/
Tokuyama Corp.	Kasumigaseki Common Gate West Tower, 2-1, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo 100-8983, Japan	+81-3-6205-4800	http://www.tokuyama.co.jp/eng/index.html
	1-1, Mikage-cho, Shunan city, Yamaguchi 745-8648, Japan	+81-834-34-2000	
Kuraray Co., Ltd.	Ote Center Bldg., 1-1-3, Otemachi, Chiyoda-ku, Tokyo 100-8115, Japan	+81-3-6701-1000	http://www.kuraray.co.jp/en/
	Umeda Hankyu Building Office Tower, 8-1, Kakudacho, Kita-ku, Osaka 530-8611, Japan	+81-6-7635-1000	
Mitsubishi Gas Chemical Co., Inc.	Mitsubishi Bldg., 2-5-2 Marunouchi, Chiyoda-ku, Tokyo 100-8324, Japan	+81-3-3283-5000	http://www.mgc.co.jp/eng/index.html
KH Neochem Co., Ltd	NBF Nihonbashi Muromachi Center Bldg., 3-2-15, Nihonbashi-Muromachi, Chuo-ku, Tokyo 103-0022, Japan	+81-3-3501-3550	http://www.khneochem.co.jp/en/
SunAllomer Ltd.	Tennoz Central Tower 27F, 2-2-24, Higashi-shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan	+81-3-5781-5610	http://www.sunallomer.co.jp/eng/index.php
Japan Polyethylene Corp.	4-14-1, Shiba, Minato-ku, Tokyo 108-0014, Japan	+81-3-6414-4300	http://www.pochem.co.jp/english/jpe/index.html
Japan Polypropylene Corp.	4-14-1, Shiba, Minato-ku, Tokyo 108-0014, Japan	+81-3-6414-4500	http://www.pochem.co.jp/english/jpp/index.html

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Prime Polymer Co., Ltd.	Shiodome City Center, 1-5-2, Higashi-Shimbashi, Minato-ku, Tokyo 105-7117, Japan	+81-3-6253-4500	http://www.primepolymer.co.jp/english/index.html
Taiyo Oil Co., Ltd.	Hibiya kokusai Bldg., 15F, 2-2-3, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011, Japan	+81-3-3502-1601	http://www.taiyooil.net/english/

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