

PETROCHEMICAL INDUSTRY OF JAPAN

2 0 1 1

JAPAN PETROCHEMICAL INDUSTRY ASSOCIATION

INDEX

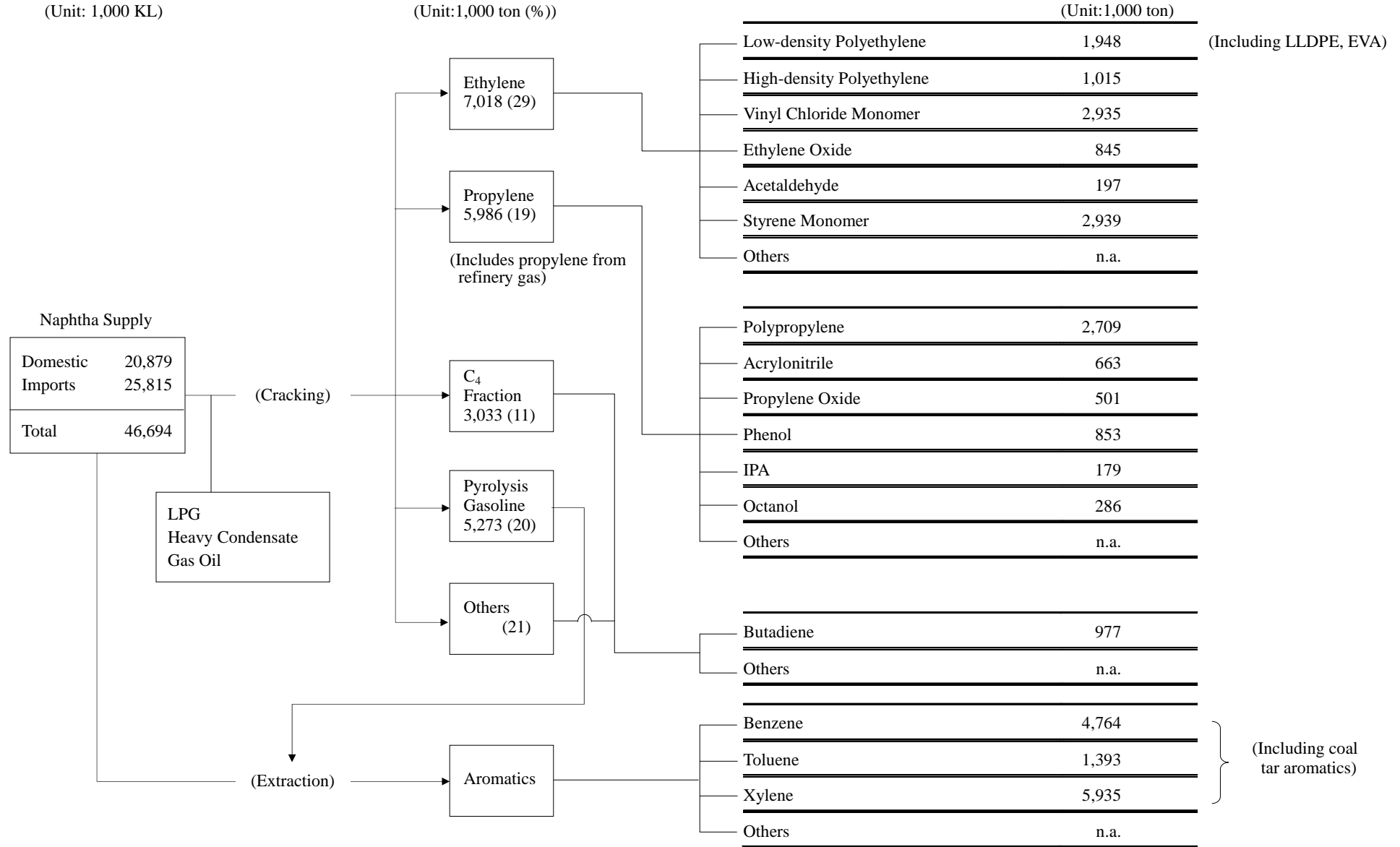
Material Flow.....	1
Geographical Locations of Petrochemical Complexes.....	2
Production Capacity.....	3
Ethylene Production.....	4
Production of Petrochemicals.....	5
Export/ Import Balance as Ethylene Equivalent.....	6
Exports.....	7
Imports.....	8
Plastics Production.....	9
Major Plastics Domestic Demand Breakdowns.....	10
Production of Synthetic and Non-Synthetic Yarns.....	11
Production of Synthetic Rubbers.....	12
The Members of the Association.....	13~15

Material Flow (2010)

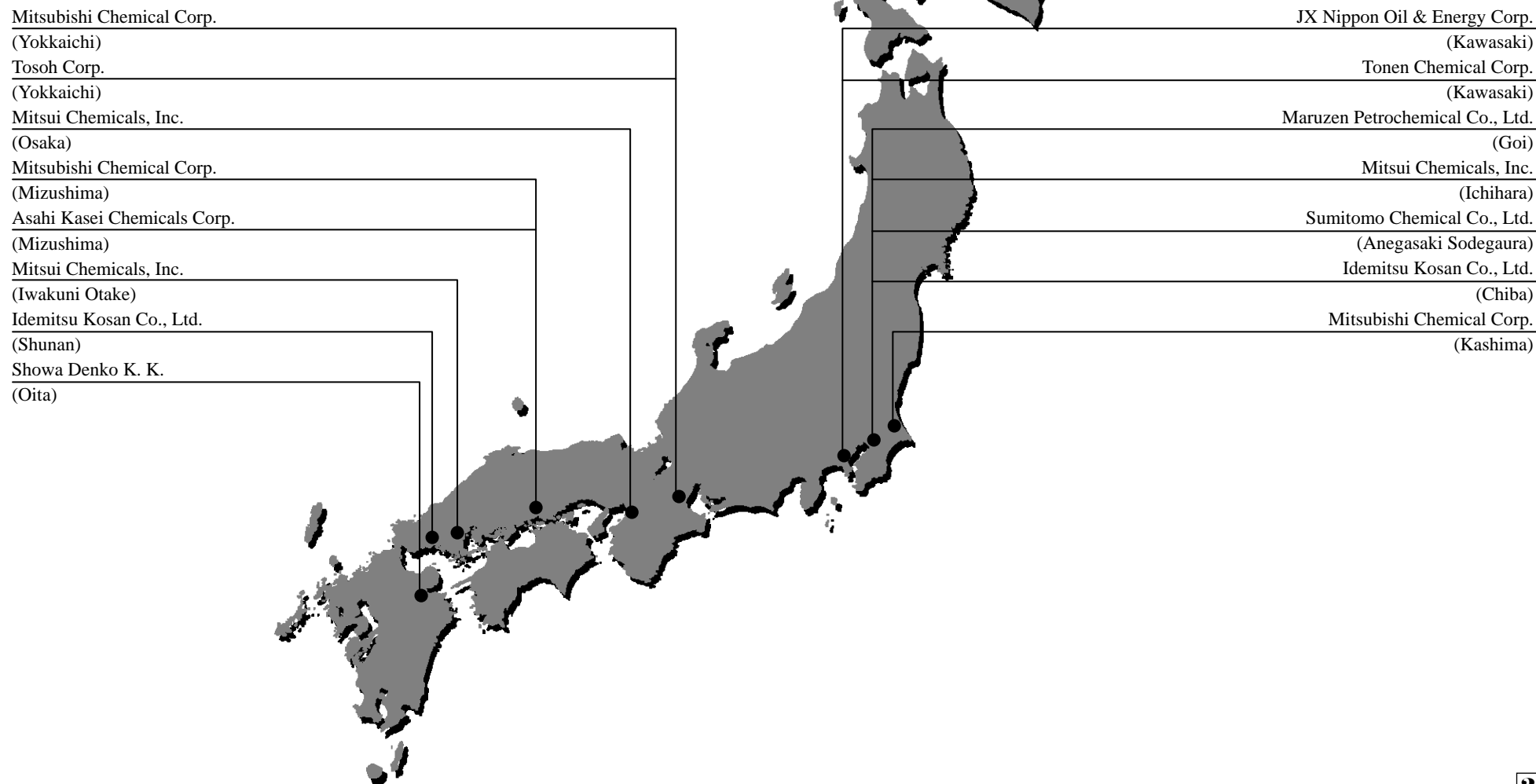
(Unit: 1,000 KL)

(Unit: 1,000 ton (%))

(Unit: 1,000 ton)



Geographical Locations of Petrochemical Complexes



Production Capacity (as of December, 2009)

(in 1,000 metric tons)

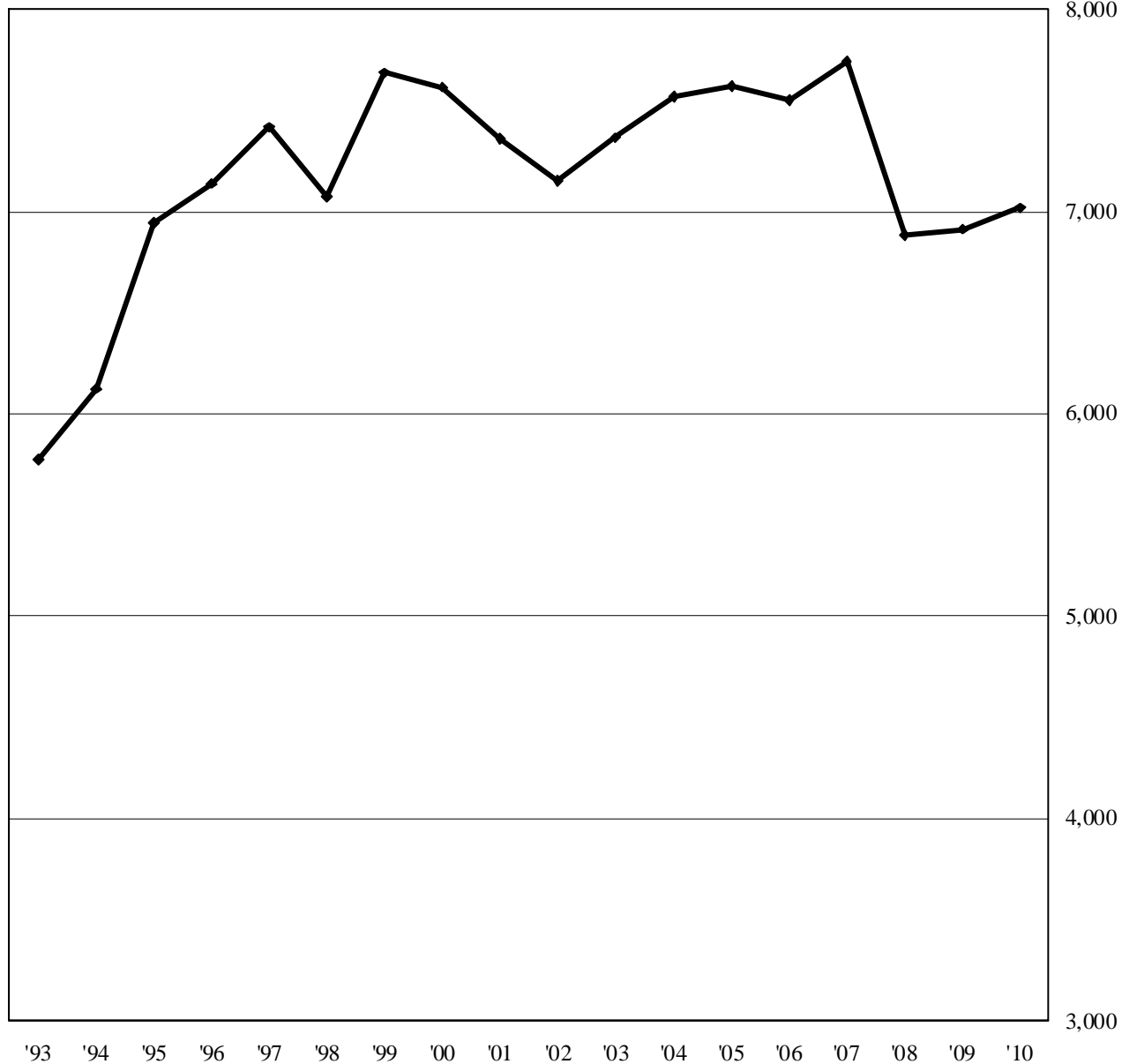
Product	Capacity	Note
Ethylene	7,279	
Benzene	6,659	
Toluene	2,317	
Xylene	7,804	
Para-xylene	3,974	
Low-density Polyethylene	2,372	Including LLDPE, EVA
High-density Polyethylene	1,285	
Polypropylene	3,268	
Polystyrene	854	GP • HI
Polyvinyl Chloride	2,156	
Ethylene Oxide	907	
Acrylonitrile	722	
Pure Terephthalic Acid	1,300	
Synthetic Rubbers	SBR	625
	BR	262
Styrene Monomer	3,278	
Vinyl Chloride Monomer	3,515	
Acetaldehyde	429	
Acetic Acid	715	

Ethylene Production

(in 1,000 metric tons)

Year	Production	Annual Growth (%)
1993	5,773	▲ 5
'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

(in 1,000 metric tons)



Production of Petrochemicals

(in 1,000 metric tons)

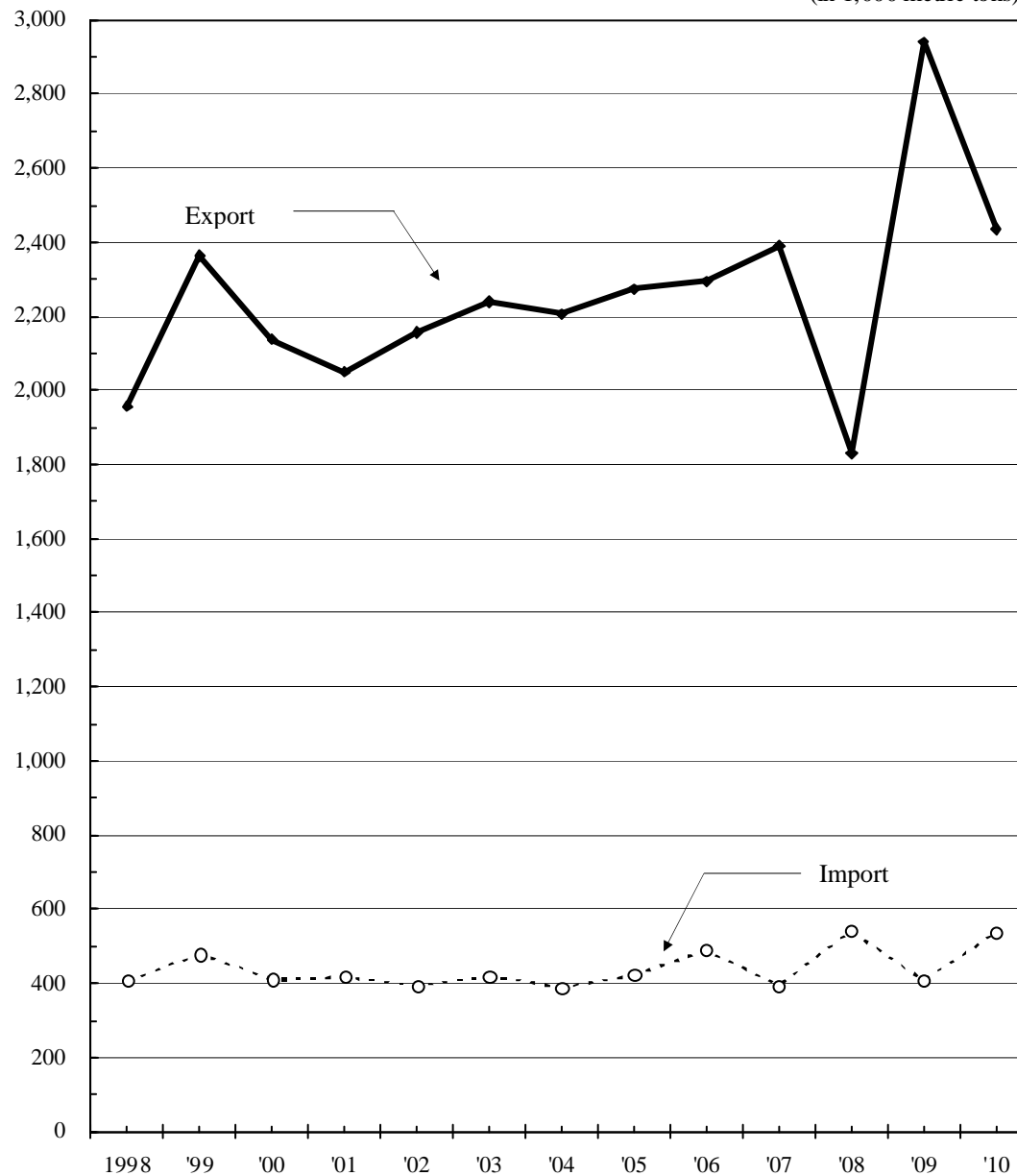
		2003	2004	2005	2006	2007	2008	2009	2010	
Basic Products	Ethylene	7,367	7,570	7,618	7,522	7,739	6,882	6,913	7,018	
	Propylene	5,610	5,767	6,030	6,090	6,286	5,674	5,591	5,986	
	Butadiene	1,062	1,041	1,040	1,002	1,024	953	871	977	
	Benzene	4,551	4,758	4,980	4,874	5,245	4,581	4,259	4,764	
	Toluene	1,584	1,634	1,676	1,633	1,637	1,437	1,415	1,393	
	Xylene	5,213	5,395	5,570	5,727	6,006	5,698	5,628	5,935	
Plastics	Low-density Polyethylene	1,795	1,847	1,899	1,876	1,878	1,818	1,605	1,704	
	EVA	201	219	212	221	219	218	215	244	
	High-density Polyethylene	1,169	1,172	1,129	1,069	1,135	1,052	986	1,015	
	Polypropylene	2,751	2,908	3,063	3,049	3,087	2,870	2,411	2,709	
	Polystyrene	GP • HI	985	975	926	932	908	829	690	698
		FS	168	176	169	171	168	144	114	124
		SAN	123	134	134	119	125	126	92	109
		ABS	524	540	505	523	547	495	348	454
Polyvinyl Chloride	2,164	2,153	2,151	2,146	2,162	1,797	1,668	1,749		
Synthetic Fiber Feedstocks	Ethylene Oxide	939	941	1,005	974	966	865	759	845	
	Ethylene Glycol	814	786	841	763	754	629	581	596	
	Acrylonitrile	780	711	742	667	743	600	602	663	
	Caprolactam	530	503	458	467	467	432	342	422	
	Para-xylene	3,097	3,164	3,358	3,357	3,301	3,039	3,218	3,177	
	Pure Terephthalic Acid	1,443	1,531	1,472	1,432	1,254	1,015	893	1,131	
Synthetic Rubbers	Styrene-butadiene Rubber	683	711	727	710	727	706	527	670	
	Butadiene Rubber	287	283	289	289	294	290	254	294	
	Others	607	622	611	608	633	655	519	631	
Others	Styrene Monomer	3,201	3,345	3,392	3,295	3,533	2,847	2,996	2,939	
	Vinyl Chloride Monomer	2,948	2,977	3,038	3,228	3,142	2,763	2,996	2,935	
	Acetaldehyde	362	347	365	342	367	281	232	197	
	Acetic Acid	592	589	599	597	587	500	384	450	
	Octanol	306	307	279	280	270	259	267	286	
	Acetone	492	539	546	531	593	491	477	521	
	Phenol	926	966	938	860	961	772	786	853	
	Propylene Oxide	426	512	504	541	520	489	469	501	
	Polypropylene Glycol	314	346	339	344	343	308	240	284	

Export/Import Balance as Ethylene Equivalent

(in 1,000 metric tons)

Year	Export (A)	Import (B)	Net Export (A-B)	Export Ratio (%)	Import Ratio (%)
1998	1,957	407	1,550	27.7	7.4
'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	470	2,533	42.5	9.3
'10	2,436	535	1,901	34.7	10.5

(in 1,000 metric tons)



Exports

(in metric tons)

	2003	2004	2005	2006	2007	2008	2009	2010
Low-density Polyethylene	227,964	232,066	222,004	211,912	210,980	188,581	302,885	241,638
High-density Polyethylene	231,004	192,341	155,044	164,890	176,713	139,077	275,157	237,597
Polypropylene	395,267	415,527	467,051	456,026	516,510	387,845	486,274	453,833
Polystyrene	133,245	113,202	88,581	82,146	99,961	84,054	63,740	55,918
ABS Resin	243,224	256,661	224,408	205,633	213,103	191,738	124,800	157,925
Polyvinyl Chloride	725,926	689,279	740,285	766,244	860,923	594,486	728,418	682,772
Styrene Monomer	1,204,517	1,340,848	1,451,553	1,378,024	1,628,083	1,132,468	1,593,313	1,398,480
Vinyl Chloride Monomer	755,753	734,330	823,657	1,028,251	902,431	898,844	1,270,632	1,110,526
Ethylene Glycol	201,998	170,449	238,448	167,698	167,471	44,420	175,586	75,177
Acetic Acid	51,318	57,562	47,166	41,656	56,204	45,973	35,423	28,235
Ethyl Acetate	21,810	29,784	55,058	30,751	45,034	9,637	14,560	1,600
Acrylonitrile	204,470	185,996	170,664	121,566	169,747	116,977	262,168	212,336
Acetone	39,741	75,501	64,737	84,473	116,547	74,316	124,030	90,771
Methylethyl Ketone	153,370	123,147	132,699	126,654	154,764	112,869	133,604	129,590
Octanol	78,450	78,580	78,899	88,719	64,210	71,718	118,621	121,280
Ethylene	322,426	304,569	273,568	299,249	282,868	196,496	587,897	459,333
Propylene	323,920	356,978	388,633	507,987	492,904	510,126	832,568	743,002
Benzene	248,193	299,507	312,893	247,460	218,245	411,619	224,687	325,400
Toluene	101,806	120,911	167,329	235,260	274,583	232,843	396,878	309,341
Mixed Xylene	219,684	240,525	205,994	232,295	373,647	293,581	343,937	373,529
Para-xylene	2,006,078	2,008,367	2,259,500	2,289,993	2,348,409	2,284,503	2,535,043	2,332,603
Phenol	79,402	86,590	110,002	96,112	197,287	153,260	255,978	216,820
Terephthalic Acid	579,862	574,429	544,099	509,707	317,386	171,359	296,478	331,583
Dimethyl Terephthalate	7,970	3,779	3,415	3,217	3,121	2,091	7,936	10,721
Phthalic Anhydride	70,506	73,482	66,048	30,224	24,527	28,742	39,744	41,584
Caprolactam	278,237	261,492	214,080	238,195	233,553	195,213	192,162	239,295
Synthetic Rubbers	533,574	578,524	516,922	545,521	601,467	574,357	625,474	753,439

Imports

(in metric tons)

	2003	2004	2005	2006	2007	2008	2009	2010
Low-density Polyethylene	152,978	181,541	205,338	200,531	197,007	261,037	177,237	245,565
High-density Polyethylene	25,306	15,080	29,056	16,104	10,834	27,467	30,423	47,825
Polypropylene	152,014	115,572	124,546	99,863	110,342	194,211	115,225	145,892
Polystyrene	6,547	5,883	9,618	10,034	2,740	7,193	12,938	20,770
Polyvinyl Chloride	5,376	3,767	7,435	10,555	7,359	8,872	10,760	5,659
Styrene Monomer	17,428	11,975	12,420	11,865	9,768	2,995	2,815	54
Ethylene Dichloride	256,099	184,775	152,684	318,409	221,010	43,461	232,873	215,895
Ethylene Glycol	59,902	35,750	20,909	24,513	18,077	19,809	2,083	9,277
Acrylonitrile	56,107	62,475	44,144	40,891	35,893	37,428	4,762	6,754
Propylene Glycol	10,203	11,504	13,114	15,794	16,927	19,690	21,442	18,517
Acetone	38,550	23,743	30,060	46,802	41,418	31,953	8,253	6,647
Butanol	26,829	25,706	14,450	3,562	2,841	3,374	4,153	1,030
Benzene	149,148	218,628	247,813	339,383	269,427	162,254	271,461	90,029
Toluene	82,701	168,309	76,368	16,626	93,859	76,941	105,084	32,422
Mixed Xylene*	121,583	106,404	110,589	41,566	7,927	0	0	1
Para-xylene	3,014	-	-	-	-	-	-	-
Phenol	27,391	954	71,886	118,430	89,498	101,955	25,960	42,282
Ethylene	89,771	75,964	88,959	103,991	55,489	142,445	41,756	60,344
Propylene	27,102	37,306	30,336	9,209	6,917	85,462	21,067	21,508
Butadiene	12,890	22,779	14,695	35,431	26,693	55,263	9,432	30,212
Synthetic Rubbers	175,044	159,267	179,758	180,497	194,081	211,256	138,369	172,289

* Including Crude Xylene

Plastics Production

(in 1,000 metric tons)

	2003	2004	2005	2006	2007	2008	2009	2010
Low-density Polyethylene	1,795	1,847	1,899	1,876	1,878	1,818	1,605	1,704
EVA	201	219	212	221	219	218	215	244
High-density Polyethylene	1,169	1,172	1,129	1,069	1,135	1,052	986	1,015
Polypropylene	2,751	2,908	3,063	3,049	3,087	2,869	2,411	2,709
Polystyrene	GP • HI	985	975	926	932	908	690	698
	FS	168	176	169	171	168	114	124
	SAN	123	134	134	119	125	92	109
	ABS	524	540	505	523	547	348	454
Polyvinyl Chloride	2,164	2,153	2,151	2,146	2,162	1,797	1,668	1,749
Polyvinyl Alcohol	190	200	203	213	230	215	192	230
Vinyliden Chloride Resin	70	71	68	68	75	74	68	n.a.
Methacrylate Resin	255	282	289	269	247	219	166	215
Polyamide Resin	270	251	266	273	274	277	189	241
Others	1,501	1,650	1,645	1,644	1,606	1,490	1,072	1,517
Thermoplastic Resin Total	12,166	12,578	12,659	12,573	12,661	11,622	9,816	11,009
Phenol Resin	261	287	280	284	295	288	227	284
Urea Resin	131	115	124	116	110	94	73	68
Melamine Resin	152	154	152	141	141	111	90	91
Unsaturated Polyester Resin	179	187	181	168	164	149	117	120
Urethane Foam	253	251	249	249	235	222	163	180
Others	285	307	300	318	325	296	214	262
Thermosetting Resin Total	1,261	1,301	1,286	1,276	1,269	1,159	884	1,005
Others	197	205	200	201	194	186	147	228
Grand Total	13,624	14,084	14,145	14,050	14,124	12,967	10,847	12,242

Major Plastics Domestic Demand Breakdowns (2010)

(in 1,000 metric tons)

Market	L. D. Polyethylene		H. D. Polyethylene		Polypropylene	
	Volume	Percentage	Volume	Percentage	Volume	Percentage
Film	717	50.9	250	29.5	499	20.3
Laminating	251	17.8				
Oriented Tape (Flat Yarn)			23	2.7	25	1.0
Injection Molding	79	5.6	99	11.7	1,344	54.8
Blow Molding	41	2.9	172	20.3	19	0.8
Fiber			37	4.4	111	4.5
Pipe	20	1.4	60	7.1		
Wire and Cable	64	4.5				
Others	238	16.9	206	24.3	455	18.5
Domestic Total	1,409	100.0	847	100.0	2,453	100.0

Market	Polystyrene (GP • HI)	
	Volume	Percentage
Electric and Industrial Equipment	144	20.9
Packaging	315	45.8
Miscellaneous, Others	73	10.6
FS	156	22.7
Domestic Total	688	100.0

Market	Polyvinyle Chloride	
	Volume	Percentage
Rigid PVC	568	55.1
Plasticized PVC	274	26.6
Wire and Others	189	18.3
Domestic Total	1,031	100.0

Production of Synthetic and Non-Synthetic Yarns

(in 1,000 metric tons)

		2003	2004	2005	2006	2007	2008	2009	2010
Synthetic Yarns	Polyester	345	342	321	306	295	275	182	206
	Nylon	121	121	118	118	117	112	74	93
	Acrylic	29	24	18	16	16	14	10	11
	Others	130	130	127	128	126	122	101	158
	Sub Total	625	617	584	568	554	523	367	468
Rayon Acetate		42	41	42	41	40	38	23	29
Natural Yarns		129	123	108	95	86	79	56	55
Grand Total		796	781	734	704	680	639	446	553

Production of Synthetic Rubbers

(in 1,000 metric tons)

	2003	2004	2005	2006	2007	2008	2009	2010
Styrene-butadiene Rubber	683	711	727	710	727	706	527	670
Butadiene Rubber	287	283	289	289	294	290	254	294
Nitrile-butadiene Rubber	98	105	106	99	109	109	86	115
Chloroprene Rubber	95	100	106	110	112	115	89	130
Ethylene Propylene Rubber	205	209	189	191	187	224	149	193
Others	209	208	210	208	225	207	195	193
Total	1,577	1,616	1,627	1,607	1,655	1,651	1,300	1,595

The Members of the Association (As of May, 2010)

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
JX Nippon Oil & Energy Corp.	6-3, Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8162, Japan	+81-3-6275-5057	http://www.noe.jx-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
Mitsui Chemicals, Inc.	Shiodome City Center, 1-5-2, Higashi-shimbashi, Minato-ku, Tokyo 105-7117, Japan	+81-3-6253-2100	http://www.mitsui-chem.co.jp
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
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
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
Mitsubishi Chemical Corp.	4-14-1, Shiba, Minato-ku, Tokyo 108-0014, Japan	+81-3-6414-3000	http://www.m-kagaku.co.jp
Tonen Chemical Corp.	W Bldg., 1-8-15, Konan, Minato-ku, Tokyo 105-8005, Japan	+81-3-6713-4005	http://www.tonengeneral.co.jp
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/

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
Mitsubishi Rayon Co., Ltd.	Shinagawa Crystalsquare, 1-6-41, Konan, Minato-ku, Tokyo 108-8506, Japan	+81-3-5495-3100	http://www.mrc.co.jp
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.co.jp
Asahi Kasei Chemicals Corp.	1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101, Japan	+81-3-3296-3200	http://www.asahi-kasei.co.jp
Daicel Chemical Industries, Ltd.	Mainichi Intecio., 3-4-5, Umeda, Kita-ku, Osaka 530-0001, Japan JR Shinagawa East Bldg., 2-18-1, Konan, Minato-ku, Tokyo 108-8230, Japan	+81-6-6342-6111 +81-3-6711-8111	http://www.daicel.co.jp
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
Ube Industries Ltd.	Seavans North Bldg., 1-2-1, Shibaura, Minato-ku, Tokyo 105-8449, Japan 1978-96, Kogushi, Ube-shi, Yamaguchi 755-8633, Japan	+81-3-5419-6112 +81-836-31-1111	http://www.ube.co.jp
Tosoh Corp.	Shiba-koen First Bldg., 3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan	+81-3-5427-5103	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
DIC Corp.	DIC Bldg., 3-7-20, Nihonbashi, Chuo-ku, Tokyo 103-8233, Japan	+81-3-3272-4511	http://www.dic.co.jp

Company	Address	Phone	URL
Tokuyama Corp.	Shibuya Konno Bldg., 3-3-1, Shibuya, Shibuya-ku, Tokyo 150-8383, Japan 1-1, Mikage-cho, Shunan-shi, Yamaguchi 745-8648, Japan	+81-3-3499-8030 +81-834-34-2000	http://www.tokuyama.co.jp
Kuraray Co., Ltd.	Ote Center Bldg., 1-1-3, Otemachi, Chiyoda-ku, Tokyo 100-8115, Japan Shin-Hankyu Bldg., 1-12-39, Umeda, Kita-ku, Osaka 530-8611, Japan	+81-3-6701-1000 +81-6-6348-2111	http://www.kuraray.co.jp
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
Kyowa Hakko Chemical Co., Ltd.	NBF Nihonbashi Muromachi Center Bldg., 3-2-15, Nihonbashi-Muromachi, Chuo-ku, Tokyo 103-0022, Japan	+81-3-3501-3550	http://www.kyowachemical.co.jp
SunAllomer Ltd.	Tennoz Central Tower 7F, 2-2-24, Higashi-shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan	+81-3-5781-5608	http://www.sunallomer.co.jp
Japan Polyethylene Corp.	4-14-1, Shiba, Minato-ku, Tokyo 108-0014, Japan	+81-3-6414-4300	http://www.pochem.co.jp/jpe/index2.html
Japan Polypropylene Corp.	4-14-1, Shiba, Minato-ku, Tokyo 108-0014, Japan	+81-3-6414-4500	http://www.pochem.co.jp/jpp/index2.html
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
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

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