

Hokkaido Refinery

25-1 Masago-cho, Tomakomai-city, Hokkaido 059-1392

Section	Indicator	Unit	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
Crude oil thruput		thousand kiloliter	2,750	3,701	6,389	7,419	6,513	7,169
Prevention of global warming	Total energy consumption	thousand kiloliter of crude oil equivalent	266	300	469	539	478	527
	Unit energy consumption	liter of crude oil equivalent/kiloliter	11.19	11.40	8.33	8.06	8.19	8.15
	CO2 emissions	thousand tonnes	635	688	1,143	1,282	1,137	1,263
Air pollution	SOX	tonnes	2,304	1,742	2,372	2,233	2,376	2,590
	NOX	tonnes	405	431	633	758	711	829
	Soot/dust	tonnes	15.2	10.4	21.4	19.3	7.9	11.3
	Benzene	tonnes	4.1	1.1	2.0	1.8	1.3	1.1
Water source	Service water	thousand tonnes	6,467	8,356	10,074	10,417	10,112	10,593
	Seawater	thousand tonnes	109,053	111,464	125,857	142,925	119,331	138,297
Water pollution	Wastewater	thousand tonnes	115,520	119,820	135,931	153,342	129,443	148,890
	COD	tonnes	37.3	28.3	32.0	29.6	18.9	21.7
	Nitrogen	tonnes						
	Phosphorus	tonnes						
Waste	Generation	tonnes	7,808	8,686	13,288	15,125	16,491	18,260
	Intermediate treatment	tonnes	1,375	1,637	1,866	3,087	3,971	1,089
	Recycle	tonnes	4,288	6,410	11,103	11,886	12,403	17,167
	Final disposal	tonnes	2,145	639	319	152	117	4

<PRTR-listed chemical substrates discharged and transferred in FY2008>

unit: tonnes

CAS No.	Substance name	Discharge to air	Discharge to water	Discharge to soil	Transfer	total
100-41-4	ethylbenzene	0.2	0.0	0.0	0.0	0.2
107-21-1	ethylene glycol	0.0	0.0	0.0	9.4	9.4
1330-20-7	Xylene	0.8	0.0	0.0	0.0	0.8
127-18-4	tetrachloroethylene	0.0	0.0	0.0	1.8	1.8
108-88-3	toluene	2.9	0.0	0.0	0.0	2.9
1336-36-3	polychlorobiphenyl	0.0	0.0	0.0	6.2	6.2
1332-21-4	asbestos	0.0	0.0	0.0	4.6	4.6
71-43-2	benzene	1.1	0.0	0.0	0.0	1.1
	Total PRTR-listed chemical substances	5.1	0.0	0.0	22.0	27.1

Note : Chemicals are not listed if the discharged and transferred amounts are less than 0.1 tonnes.



Chiba Refinery

2-1 Anesakikaigan, Ichihara-city, Chiba 299-01922

Section	Indicator	Unit	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
Crude oil thruput		thousand kiloliter	10,499	11,595	10,828	11,619	9,972	11,182
Prevention of global warming	Total energy consumption	thousand kiloliter of crude oil equivalent	754	828	784	899	799	872
	Unit energy consumption	liter of crude oil equivalent/kiloliter	8.99	8.59	8.63	8.55	8.52	8.47
	CO2 emissions	thousand tonnes	1,831	2,007	2,017	2,356	2,073	2,247
Air pollution	SOX	tonnes	2,048	2,250	1,824	2,158	1,869	2,101
	NOX	tonnes	874	1,003	992	1,220	987	1,144
	Soot/dust	tonnes	80.3	92.3	110.1	113.8	58.3	56.9
	Benzene	tonnes	0.7	0.7	0.8	0.4	0.7	0.7
Water source	Service water	thousand tonnes	19,524	19,718	19,268	19,106	18,737	19,109
	Seawater	thousand tonnes	303,460	324,444	308,091	329,277	294,084	325,252
Water pollution	Wastewater	thousand tonnes	322,984	344,162	327,359	348,383	312,821	344,361
	COD	tonnes	19.8	19.6	18.1	20.2	21.8	23.0
	Nitrogen	tonnes	58.4	51.8	46.1	62.2	46.9	60.4
	Phosphorus	tonnes	0.1	0.0	0.1	0.2	0.1	0.2
Waste	Generation	tonnes	79,280	73,285	86,919	81,241	88,076	86,821
	Intermediate treatment	tonnes	32,410	29,485	47,120	29,923	29,320	26,601
	Recycle	tonnes	46,430	43,490	39,199	51,167	58,740	60,202
	Final disposal	tonnes	440	310	600	151	16	18

<PRTR-listed chemical substrates discharged and transferred in FY2008>

unit: tonnes

CAS No.	Substance name	Discharge to air	Discharge to water	Discharge to soil	Transfer	total
141-43-5	2-aminoethanol	0.0	0.0	0.0	4.2	4.2
100-41-4	ethylbenzene	0.3	0.0	0.0	0.0	0.3
1330-20-7	Xylene	1.0	0.0	0.0	0.0	1.0
108-88-3	toluene	4.5	0.0	0.0	0.0	4.5
1336-36-3	polychlorobiphenyl	0.0	0.0	0.0	2.1	2.1
-	poly(oxyethylene) alkyl ether(C=12-15)	0.0	0.0	0.0	0.1	0.1
1332-21-4	asbestos	0.0	0.0	0.0	3.4	3.4
71-43-2	benzene	0.7	0.0	0.0	0.0	0.7
Total PRTR-listed chemical substances		6.5	0.0	0.0	9.8	16.2

Note : Chemicals are not listed if the discharged and transferred amounts are less than 0.1 tonnes.



Refineries ③

Aichi Refinery

11 Minamihama-machi, Chita-city, Aichi 478-8555

Section	Indicator	Unit	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
Crude oil thruout		thousand kiloliter	8,416	8,296	8,051	7,300	8,488	7,849
Prevention of global warming	Total energy consumption	thousand kiloliter of crude oil equivalent	690	704	692	619	700	673
	Unit energy consumption	liter of crude oil equivalent/kiloliter	8.64	8.77	8.60	8.51	8.37	8.71
	CO2 emissions	thousand tonnes	1,807	1,873	1,894	1,698	1,882	1,834
Air pollution	SOX	tonnes	1,122	934	951	1,004	1,259	1,254
	NOX	tonnes	1,280	1,092	1,533	1,466	1,284	1,254
	Soot/dust	tonnes	70.8	136.3	71.4	78.4	63.6	41.9
	Benzene	tonnes	1.9	2.1	1.6	1.1	1.2	1.0
Water source	Service water	thousand tonnes	11,635	12,314	12,576	12,394	12,586	12,739
	Seawater	thousand tonnes	206,809	236,683	253,077	211,531	212,469	211,475
Water pollution	Wastewater	thousand tonnes	218,444	248,997	265,653	223,925	225,055	224,214
	COD	tonnes	6.1	7.3	7.1	7.0	8.0	9.0
	Nitrogen	tonnes		6.9	7.7	7.3	6.3	7.8
	Phosphorus	tonnes		0.7	0.7	0.6	1.0	1.4
Waste	Generation	tonnes	45,484	83,834	83,491	81,749	73,303	91,277
	Intermediate treatment	tonnes	17,751	45,808	50,998	46,819	40,852	54,251
	Recycle	tonnes	27,004	37,163	32,377	34,747	32,146	36,858
	Final disposal	tonnes	729	864	116	183	305	168

<PRTR-listed chemical substrates discharged and transferred in FY2008>

unit: tonnes

CAS No.	Substance name	Discharge to air	Discharge to water	Discharge to soil	Transfer	total
100-41-4	ethylbenzene	0.1	0.0	0.0	0.0	0.1
1330-20-7	Xylene	0.4	0.0	0.0	0.0	0.4
108-88-3	toluene	1.8	0.0	0.0	0.0	1.8
1332-21-4	asbestos	0.0	0.0	0.0	2.3	2.3
71-43-2	benzene	1.0	0.0	0.0	0.0	1.0
	Total PRTR-listed chemical substances	3.3	0.0	0.0	2.3	5.6

Note : Chemicals are not listed if the discharged and transferred amounts are less than 0.1 tonnes.



Tokuyama Refinery 1-1 Shingu-cho, Shunan-city, Yamaguchi 745-8613

Section	Indicator	Unit	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
Crude oil throuput		thousand kiloliter	6,412	5,096	6,837	6,100	6,906	5,476
Prevention of global warming	Total energy consumption	thousand kiloliter of crude oil equivalent	463	400	470	421	466	384
	Unit energy consumption	liter of crude oil equivalent/kiloliter	10.08	10.67	9.74	9.81	9.71	10.25
	CO2 emissions	thousand tonnes	894	779	1,074	982	1,087	896
Air pollution	SOX	tonnes	527	507	382	302	320	312
	NOX	tonnes	697	579	755	626	715	561
	Soot/dust	tonnes	28.6	15.3	31.5	30.8	38.4	24.6
	Benzene	tonnes	1.8	1.8	1.8	1.3	1.0	1.2
Water source	Service water	thousand tonnes	3,416	3,737	3,951	3,443	3,914	3,593
	Seawater	thousand tonnes	203,835	190,174	216,934	200,007	216,212	190,166
Water pollution	Wastewater	thousand tonnes	207,251	193,911	220,885	203,450	220,126	193,759
	COD	tonnes	22.5	14.5	14.6	14.2	12.8	12.7
	Nitrogen	tonnes		7.9	8.6	9.5	9.3	9.9
	Phosphorus	tonnes		0.3	0.3	0.4	0.3	0.5
Waste	Generation	tonnes	3,154	4,892	5,042	5,037	4,087	5,192
	Intermediate treatment	tonnes	994	1,650	929	2,093	1,132	1,412
	Recycle	tonnes	2,129	3,198	4,083	2,862	2,925	3,730
	Final disposal	tonnes	31	44	30	82	30	50

<PRTR-listed chemical substrates discharged and transferred in FY2008>

unit: tonnes

CAS No.	Substance name	Discharge to air	Discharge to water	Discharge to soil	Transfer	total
141-43-5	2-aminoethanol	0.0	0.0	0.0	20.0	20.0
100-41-4	ethylbenzene	0.3	0.0	0.0	0.0	0.3
1330-20-7	Xylene	2.3	0.0	0.0	0.0	2.3
68-12-2	N,N-dimethylformamide	0.0	0.0	0.0	21.0	21.0
108-88-3	toluene	5.0	0.0	0.0	0.0	5.0
1332-21-4	asbestos	0.0	0.0	0.0	15.0	15.0
71-43-2	benzene	1.2	0.0	0.0	0.0	1.2
Total PRTR-listed chemical substances		8.8	0.0	0.0	56.0	64.8

Note : Chemicals are not listed if the discharged and transferred amounts are less than 0.1 tonnes.



Petrochemical Plants ①

Chiba Plant

(including Anesaki factory of Prime Polymer Co., LTD)

1-1 Anesakikaigan, Ichihara-city, chiba 299-0193

Section	Indicator	Unit	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
Production of ethylene equivalent		thousand tonnes	2,282	2,339	2,431	2,447	2,317	2,013
Prevention of global warming	Total energy consumption	thousand kiloliter of crude oil equivalent	660	665	700	691	645	639
	Unit energy consumption	kiloliter of crude oil equivalent/tonnes	0.289	0.284	0.288	0.282	0.278	0.318
	CO2 emissions	thousand tonnes	1,501	1,513	1,446	1,518	1,377	1,358
Air pollution	SOX	tonnes	1.9	2.1	2.8	2.9	2.7	1.8
	NOX	tonnes	1,022	1,073	1,093	1,150	996	1,012
	Soot/dust	tonnes	8.6	13.7	6.0	14.5	14.8	21.3
Water source	Service water	thousand tonnes	4,674	4,599	4,525	4,459	4,691	4,329
	Seawater	thousand tonnes	116,291	127,593	118,836	125,672	114,788	137,582
Water pollution	Wastewater	thousand tonnes	118,768	132,192	123,361	130,131	119,479	141,911
	COD	tonnes	14.1	11.9	10.6	13.5	10.5	11.3
	Nitrogen	tonnes		5.0	18.3	18.7	17.3	15.5
	Phosphorus	tonnes		2.7	0.3	0.4	0.5	0.4
Waste	Generation	tonnes	44,651	41,412	44,727	28,945	24,831	13,229
	Intermediate treatment	tonnes	37,293	32,357	31,148	19,103	13,570	3,368
	Recycle	tonnes	7,226	8,758	13,310	9,661	11,182	9,783
	Final disposal	tonnes	132	297	269	181	80	78

<PRTR-listed chemical substrates discharged and transferred in FY2008>

unit: tonnes

CAS No.	Substance name	Discharge to air	Discharge to water	Discharge to soil	Transfer	total
141-43-5	2-aminoethanol	0.0	0.0	0.0	51.8	51.8
1332-21-4	asbestos	0.0	0.0	0.0	1.3	1.3
80-05-7	4,4'-isopropylidenediphenol (bisphenol A)	0.0	0.0	0.0	49.3	49.3
100-41-4	ethylbenzene	4.0	0.0	0.0	4.9	8.8
107-21-1	ethylene glycol	0.0	0.0	0.0	0.7	0.7
105-60-2	ε-caprolactam	0.0	1.0	0.0	0.0	1.0
1330-20-7	Xylene	1.3	0.0	0.0	0.0	1.3
75-45-6	chlorodifluoromethane (HCFC-22)	2.5	0.0	0.0	0.0	2.5
1975/9/2	dichloromethane	131.7	0.0	0.0	60.2	192.0
100-42-5	styrene	6.9	0.0	0.0	1.3	8.1
108-88-3	toluene	0.5	0.0	0.0	0.1	0.6
108-95-2	phenol	0.6	0.0	0.0	1.2	1.8
71-43-2	benzene	1.1	0.0	0.0	0.1	1.2
	Total PRTR-listed chemical substances	148.5	1.1	0.0	170.7	320.4



Note : Chemicals are not listed if the discharged and transferred amounts are less than 0.1 tonnes.

Petrochemical Plants ②

Tokuyama Plant

1-1 Miyamae-cho, Shunan-city, Yamaguchi 745-8613

Section	Indicator	Unit	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
Production of ethylene equivalent		thousand tonnes	1,866	1,621	1,899	1,744	2,022	1,505
Prevention of global warming	Total energy consumption	thousand kiloliter of crude oil equivalent	687	650	745	688	752	612
	Unit energy consumption	kiloliter of crude oil equivalent/tonnes	0.368	0.401	0.392	0.394	0.372	0.407
	CO2 emissions	thousand tonnes	1,640	1,559	1,551	1,536	1,655	1,368
Air pollution	SOX	tonnes	1,252	1,073	970	1,109	1,066	928
	NOX	tonnes	1,442	1,257	1,469	1,455	1,700	1,408
	Soot/dust	tonnes	6.7	8.5	7.8	6.8	5.5	4.6
Water source	Service water	thousand tonnes	13,137	14,956	12,927	13,975	8,902	11,463
	Seawater	thousand tonnes	292,819	267,998	294,768	269,086	299,406	270,753
Water pollution	Wastewater	thousand tonnes	305,956	282,954	307,695	283,061	308,309	282,216
	COD	tonnes	17.6	19.8	18.5	16.0	16.6	15.5
	Nitrogen	tonnes	13.3	18.3	13.4	12.8	13.7	17.7
	Phosphorus	tonnes	0.4	0.6	0.6	0.5	0.4	0.6
Waste	Generation	tonnes	22,999	20,983	25,807	29,246	34,797	32,667
	Intermediate treatment	tonnes	9,035	9,517	10,558	11,833	16,381	11,554
	Recycle	tonnes	13,929	11,436	15,238	17,386	18,394	21,098
	Final disposal	tonnes	35	30	11	27	22	15

<PRTR-listed chemical substrates discharged and transferred in FY2008>

unit: tonnes

CAS No.	Substance name	Discharge to air	Discharge to water	Discharge to soil	Transfer	total
141-43-5	2-aminoethanol	0.0	0.0	0.0	2.6	2.6
1332-21-4	asbestos	0.0	0.0	0.0	16.0	16.0
100-41-4	ethylbenzene	3.0	0.0	0.0	0.0	3.0
1330-20-7	Xylene	3.3	0.0	0.0	0.0	3.3
75-45-6	chlorodifluoromethane (HCFC-22)	0.8	0.0	0.0	0.0	0.8
100-42-5	styrene	11.0	0.0	0.0	0.0	11.0
108-88-3	toluene	9.6	0.0	0.0	0.0	9.6
71-43-2	benzene	0.6	0.0	0.0	0.3	0.8
	Total PRTR-listed chemical substances	28.3	0.0	0.0	18.9	47.2

Note : Chemicals are not listed if the discharged and transferred amounts are less than 0.1 tonnes.

