

# Data on KUBOTA Domestic Production Plants and Offices

Item	Unit	Hanshin Plant (Mukogawa)	Hanshin Plant (Amagasaki)	Hanshin Plant (Shin-yodogawa Factory)	Keiyo Plant (Funabashi)	Keiyo Plant (Ichikawa)	Hirakata Plant
------	------	--------------------------	---------------------------	---------------------------------------	-------------------------	------------------------	----------------

## INPUT

Energy		Unit	Hanshin Plant (Mukogawa)		Hanshin Plant (Amagasaki)		Hanshin Plant (Shin-yodogawa Factory)		Keiyo Plant (Funabashi)		Keiyo Plant (Ichikawa)		Hirakata Plant	
			Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ
	Electricity	10,000 kWh	4,526	443,192	2,895	288,633	234	22,381	5,218	503,459	554	53,607	5,065	495,744
	Coal/Coke	t	13,016	391,786	0	0	0	0	25,141	756,733	0	0	0	0
	Town gas	1,000 m <sup>3</sup>	3,994	156,973	3,853	151,434	0	0	2,788	109,569	0	0	4,418	173,646
	Kerosene	kL	4,915	180,387	8	305	212	7,798	11,608	426,007	15	547	99	3,629
	Light oil	kL	26	1,005	0	0	20	747	207	7,913	6	237	479	18,284
	Heavy fuel oil A	kL	0	0	0	0	0	0	0	0	0	0	0	
	LPG, other		-	581	-	0	-	173	-	24,459	-	1,579	-	11
	Total		-	1,173,923	-	440,372	-	31,099	-	1,828,141	-	55,970	-	691,314

Water usage	10,000 m <sup>3</sup>	98.9	19.3	1.5	133.7	1.4	20.6
-------------	-----------------------	------	------	-----	-------	-----	------

## OUTPUT

CO <sub>2</sub> emission	t-CO <sub>2</sub>	78,719	18,047	1,428	137,229	2,187	28,419
--------------------------	-------------------	--------	--------	-------	---------	-------	--------

Atmospheric exhaust gas	Main smoke and soot generating facilities		Melting furnaces			Heating furnaces			Drying furnaces			Melting furnaces			-			Heating furnaces			
	SOx	NOx	SOot and dust	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value
	Regulation of volume and K-value regulation: m <sup>3</sup> /h	Regulation of volume: m <sup>3</sup> /h, Concentration regulation: ppm	g/m <sup>3</sup> N	K-value regulation	0.26	0.0068	* Use of town gas with zero sulfur content	8.30/year	2.023/year	K-value regulation	0.68	Under 0.001	Regulation of volume	19.3	0.06	Regulation of volume	54.1	6.9	Regulation of volume	20,286	1.94
				Regulation of volume	61.00/year	121.43/year	Regulation of volume	0.1	0.0146	Concentration regulation	0.1	Under 0.005	Concentration regulation	0.1	0.0009	Concentration regulation	0.1	0.0009	Concentration regulation	0.1	0.013

Drainage	Public water areas	pH	Regulated value		Measured value		Regulated value		Measured value		Regulated value		Measured value		Regulated value		Measured value	
			5-8	8.6	7.1	-	-	-	7.2	5-9	7.8	5-9	7	5.8-8.6	7.2			
		BOD	mg/L	30	3	-	-	-	3	-	-	60	7	25	2.8			
		COD	mg/L	20	0.1	-	-	-	7	20	2.2	60	10.9	25	4.7			
		Nitrogen	mg/L	40	5.3	-	-	-	6.50	20	3.6	70	11.7	120	4.3			
		Phosphorus	mg/L	1	0.10	-	-	-	0.36	2	0.12	7	1.4	16	0.42			
		Hexavalent chromium	mg/L	0.35	0.01	-	-	-	ND	0.05	ND	0.5	ND	0.05	ND			
		Lead	mg/L	0.1	ND	-	-	-	ND	0.1	ND	0.1	ND	0.01	ND			
		Regulation value of COD volume	kg/day	112.3	23	-	-	-	-	230.3	16.21	2,600	0.50	49.93	2.75			
		Regulation value of nitrogen volume	kg/day	129.1	19	-	-	-	-	163.5	10.93	2,855	0.54	52.6	2.93			
		Regulation value of phosphorus volume	kg/day	16.5	0.4	-	-	-	-	21.8	0.21	0.257	0.06	6.26	0.21			
	Sewerage	pH	-	5.7-8.7	7.2	5.7-8.7	7.2	-	-	-	-	-	-	-	-			
		BOD	mg/L	300	7	300	22	-	-	-	-	-	-	-	-			
		COD	mg/L	-	0.2	-	-	-	-	-	-	-	-	-	-			
		SS	mg/L	300	2	300	5	-	-	-	-	-	-	-	-			

Waste	Volume of discharge	t	12,130	3,411	728	31,664	142	4,617
	Resource recycling rate	%	97.5	99.9	100	99.4	99.5	98.6

## Results of PRTR Reporting Unit: kg/year (dioxins: mg-TEQ/year)

Name of plant or office	Name of substance	Number specified in Cabinet Order	Release volume					Transfer volume	
			Atmosphere	Public water areas	Soil	On-site landfills	Sewerage	Transfers to off-site	
Hanshin Plant (Mukogawa)	Ethylbenzene	40	3,284	0	0	0	0	61	
	Xylene	63	5,935	0	0	0	0	90	
	1, 3, 5-trimethylbenzene	224	1,894	0	0	0	0	0	
	Toluene	227	45,282	0	0	0	0	1,548	
	Lead and its compounds	230	0	0	0	0	0	23,992	
	Nickel	231	0	0	0	0	0	260	
Hanshin Plant (Marushima)	Phenol	266	0	0	0	0	0	0	
	Ethylbenzene	40	7,949	0	0	0	0	8.0	
	Xylene	63	20,024	0	0	0	0	11.0	
Hanshin Plant (Amagasaki)	Toluene	227	25,311	0	0	0	0	199	
	Nickel	231	0	0	0	0	0	77	
	Chromium and chromium (III) compounds	68	0	0	0	0	0	4,071	
	Toluene	227	1,894	0	0	0	0	0	
Hanshin Plant (Nagasu)	Nickel	231	0	0	0	0	0	166	
	Boron and its compounds	304	0	0	0	0	0	1,339	
	Manganese and its compounds	311	0.7	0	0	0	0	19,368	
	Molybdenum and its compounds	346	0	0	0	0	0	0	
Shin-yodogawa Factory	Ethylbenzene	40	1,526	0	0	0	0	0	
	Xylene	63	3,459	0	0	0	0	0	
	Toluene	227	2,554	0	0	0	0	0	
	Bisphenol A type epoxy resin (liquid)	30	0	0	0	0	0	0	
	Xylene	63	1,457	0	0	0	0	0	
Hirakata Plant	Cobalt and its compounds	100	0	0	0	0	0	461	
	Styrene	177	11,609	0	0	0	0	0	

Name of plant or office	Name of substance	Number specified in Cabinet Order	Release volume					Transfer volume	
			Atmosphere	Public water areas	Soil	On-site landfills	Sewerage	Transfers to off-site	
Keiyo Plant (Funabashi)	Ethylbenzene	40	33,795	0	0	0	0	0	
	Cadmium and its compounds	60	0	0	0	0	0	9,485	
	Xylene	63	55,654	0	0	0	0	0	
	Toluene	227	106,836	0	0	0	0	0	
	Lead and its compounds	230	0	0	0	0	0	28,711	
	Nickel	231	0	0	0	0	0	27	
	Phenol	266	0	0	0	0	0	0	
Keiyo Plant (Distribution Center)	Manganese and its compounds	311	0	0	0	0	0	35,092	
	Ethylbenzene	40	13,538	0	0	0	0	0	
	Xylene	63	66,110	0	0	0	0	0	
Keiyo Plant (Ichikawa)	Toluene	227	20,600	0	0	0	0	0	
	Xylene	63	1,521	0	0	0	0	0.0	
Keiyo Plant (Gyotoku Processing Center)	Manganese and its compounds	311	0	0	0	0	0	55	
	Manganese and its compounds	311	0	0	0	0	0	32	
Hirakata Plant	Bisphenol A type epoxy resin (liquid)	30	0	0	0	0	0	456	
	Ethylbenzene	40	909	0	0	0	0	10,688	
	Xylene	63	1,693	0	0	0	0	19,316	
	Chromium and chromium (III) compounds	68	0	0	0	0	0	6,215	
	Cobalt and its compounds	100	0	0	0	0	0	0	
	1, 3, 5-trimethylbenzene	224	78	0	0	0	0	927	
	Toluene	227	1,637	0	0	0	0	16,167	
	Lead and its compounds	230	0	0	0	0	0	2,362	
	Nickel	231	0	0	0	0	0	6	
	Boron and its compounds	304	0	0	0	0	0	0	
Hirakata Plant	Manganese and its compounds	311	0	0	0	0	0	9,883	
	Molybdenum and its compounds	346	0	0	0	0	0	0	



Okajima Plant	Sakai Plant	Sakai Rinkai Plant	Utsunomiya Plant	Tsukuba Plant	Kyuhoji Business Center	Ryugasaki Plant	Shiga Plant
---------------	-------------	--------------------	------------------	---------------	-------------------------	-----------------	-------------

Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ	Volume of use	Calorific conversion GJ
6,833	664,845	3,607	352,104	1,929	187,884	837	82,396	3,738	364,839	253	24,808	366	36,498
9,907	298,187	0	0	0	0	0	0	0	0	0	0	0	0
2,241	88,076	2,281	89,652	871	34,249	1,064	41,807	2,498	98,160	158	6,203	238	9,365
2	81	0	0	0	0	329	12,074	833	30,558	12	440	24	881
98	3,730	840	32,077	1,595	60,921	0	0	0	0	0	8	3	122
0	0	620	24,242	23	907	0	0	0	0	0	0	0	0
-	100	-	4,638	-	3,630	-	0	-	0	-	999	-	617
-	1,055,019	-	502,713	-	287,591	-	136,277	-	493,556	-	32,458	-	47,484

15.0	13.7	6.3	31.0	18.7	1.3	2.1	22.4
------	------	-----	------	------	-----	-----	------

63,196	21,568	13,123	6,013	20,794	1,308	1,931	2,694
--------	--------	--------	-------	--------	-------	-------	-------

Melting furnaces			Drying furnaces			Boilers			Boilers			Boilers			Boilers		
Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value	Regulation content	Regulated value	Measured value
Regulation of volume	2.86	0.046	Regulation of volume	2.18	0.1046	No smoke and soot generating facilities			* Use of town gas with zero sulfur	K-value regulation	10.36	0.06	No smoke and soot generating facilities			* Use of town gas with zero sulfur	* Use of town gas with zero sulfur
Regulation of volume	2.4	0.47	Regulation of volume	1.997	0.442	Concentration regulation	150	15	Concentration regulation	230	110	Concentration regulation	230	68	Concentration regulation	180	36
Concentration regulation	0.05	0.005	Concentration regulation	0.1	0.005	Concentration regulation	0.1	0.001	Concentration regulation	0.25	0.01	Concentration regulation	0.2	0.01	-	-	-

Regulated value	Measured value	Regulated value	Measured value	Regulated value	Measured value	Regulated value	Measured value	Regulated value	Measured value	Regulated value	Measured value	Regulated value	Measured value	Regulated value	Measured value
-	-	-	-	5.8-8.6	7.2	5.8-8.6	7.4	5.8-8.6	7.4	-	-	-	-	6.0-8.5	7.4
-	-	-	-	15	5	25	ND	20	5.8	-	-	-	-	20	1
-	-	-	-	25	10	-	2.8	20	8.0	-	-	-	-	20	3
-	-	-	-	120	20	120	12.7	60	3.2	-	-	-	-	8	ND
-	-	-	-	8	ND	16	1.0	8	0.28	-	-	-	-	0.8	0.17
-	-	-	-	0.5	ND	0.5	ND	0.5	ND	-	-	-	-	0.05	ND
-	-	-	-	0.1	ND	0.1	ND	0.1	ND	-	-	-	-	0.1	ND
-	-	-	-	2.75	1.11	-	-	-	-	-	-	-	-	-	-
-	-	-	-	5.50	2.11	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0.44	0.10	-	-	-	-	-	-	-	-	-	-
5.7-8.7	7.5	5.7-8.7	7.2	-	-	-	-	-	-	5.7-8.7	7	5.0-9.0	7.8	-	-
600	80	300	13	-	-	-	-	-	-	300	2	600	220	-	-
-	-	-	23	-	-	-	-	-	-	-	-	600	96	-	-
600	17	300	9	-	-	-	-	-	-	300	3	600	11	-	-

29,512	1,260	1,049	374	1,870	373	258	394
99.9	99.9	98.4	98.4	99.9	98.2	99.3	99.2

Name of plant or office	Name of substance	Number specified in Cabinet Order	Release volume					Transfer volume	
			Atmosphere	Public water areas	Soil	On-site landfills	Sewerage	Transfers to off-site	
Okajima Plant	Bisphenol A type epoxy resin (liquid)	30	0	0	0	0	0	736	
	Ethylbenzene	40	2,559	0	0	0	0	853	
	Xylene	63	16,941	0	0	0	0	5,647	
	Chromium and chromium (III) compounds	68	0	0	0	0	0	1,302	
	Nickel	231	0	0	0	0	0	0	
	Phenol	266	0	0	0	0	0	0	
	Manganese and its compounds	311	0	0	0	0	0	3,682	
Sakai Plant	Water-soluble zinc compounds	1	0	0	0	0	25.4	0	
	2-aminoethanol	16	0	0	0	0	0	4,108	
	Ethylbenzene	40	1,437	0	0	0	0	445	
	Ethylene glycol	43	0	0	0	0	0	413	
	Xylene	63	4,126	0	0	0	0	1,942	
Sakai Rinkai Plant	Toluene	227	1,084	0	0	0	0	1,617	
	2-aminoethanol	16	0	0	0	0	0	1,427	
	Ethylbenzene	40	36	0	0	0	0	235	
	Xylene	63	262	0	0	0	0	1,084	
Utsunomiya Plant	Toluene	227	272	0	0	0	0	819	
	Water-soluble zinc compounds	1	0	8.6	0	0	0	503	
	Ethylbenzene	40	5,203	0	0	0	0	2,017	
	Ethylene glycol	43	0	0	0	0	0	0	
	Xylene	63	16,216	0	0	0	0	6,231	
	Toluene	227	626	0	0	0	0	243	
	Lead and its compounds	230	0	0	0	0	0	885	
	Nickel compounds	232	0	55	0	0	0	83	
Manganese and its compounds	311	0	54	0	0	0	234		

Name of plant or office	Name of substance	Number specified in Cabinet Order	Release volume					Transfer volume	
			Atmosphere	Public water areas	Soil	On-site landfills	Sewerage	Transfers to off-site	
Tsukuba Plant	Water-soluble zinc compounds	1	0	33	0	0	0	872	
	2-aminoethanol	16	0	0	0	0	0	4,061	
	Ethylbenzene	40	12,709	0	0	0	0	270	
	Ethylene glycol	43	0	0	0	0	0	0	
	Xylene	63	45,983	0	0	0	0	3,441	
	Chromium (VI) compounds	69	0	0	0	0	0	518	
	1, 3, 5-trimethylbenzene	224	1,979	0	0	0	0	0	
	Toluene	227	11,702	0	0	0	0	2,893	
Kyuhoji Business Center	Lead and its compound	230	0	0	0	0	0	2,528	
	Xylene	63	1,110	0	0	0	0	789	
Ryugasaki Plant	Toluene	227	149	0	0	0	0	1,766	
	Ethylbenzene	40	2,719	0	0	0	0	54	
Shiga Plant	Xylene	63	3,348	0	0	0	0	75	
	Toluene	227	2,960	0	0	0	0	789	
Shin-yodogawa Environmental Plant Center	Bis (2-ethylhexyl) adipate	9	0	0	0	0	0	247	
	Styrene	177	37,074	0	0	0	0	0	
	Di-n-butyl phthalate	270	0	0	0	0	0	38	
	Dioxins	179	0.0290	0	0	0	0	0.1200	