

Environmental Data at Facilities



Overview of Facilities in Japan

R&D and Manufacturing Facilities

	Name and location of workplace	Overview
Olympus Optical Co., Ltd.	Technology Research Institute (Hachioji) 2951 Ishikawa-cho, Hachioji-shi, Tokyo 192-8507 Tel. +81-(0)426-42-2111	Year of foundation: 1963 Size: 89,552m ² Business areas: Development of endoscopes, microscopes, clinical blood analysers, silver-halide cameras, digital cameras, and information peripherals and elementary and production technologies
	Hinode Plant 34-3 Hirai, Hinode-cho, Nishitama-gun, Tokyo 190-0182 Tel. +81-(0)42-597-7111	Year of foundation: 1993 Size: 8,486m ² Business areas: Production of medical and industrial endoscopes and ultrasonic devices
	Ina Plant 5128 Oaza-Ina, Ina-shi, Nagano 396-0021 Tel. +81-(0)265-72-1111	Year of foundation: 1944 Size: 59,400m ² Business areas: Production of optical microscopes
	Tatsuno Plant 6666 Inatomi, Tatsuno-machi, Kamiina-gun, Nagano 399-0495 Tel. +81-(0)266-41-4111	Year of foundation: 1981 Size: 134,812m ² Business areas: Production of digital cameras and liquid crystal inspection systems and R&D of semiconductors
Manufacturing Affiliates in Japan	Tokyo Kinzoku Co., Ltd., Kyowa Plant 7001-1 Oaza-Koguri-Kaminakadai, Kyowa-cho, Makabe-gun, Ibaraki 309-1101 Tel. +81-(0)296-57-3555	Year of foundation: 1970 Size: 18,624m ² Business areas: Production of aluminium die casting and plastic moulding and assembly of optical microscopes
	Olympus Opto-Electronics Co., Ltd., Tokyo Plant 1-60 Shibasaki, Chofu-shi, Tokyo 182-0014 Tel. +81-(0)42-485-2111	Year of foundation: 1969 Size: 4,289m ² Business areas: Production of precision motors, mobile printers, substrate mounting, products in new areas
	Olympus Opto-Electronics Co., Ltd., Aomori Plant 2-248-1 Okonogi, Kuroishi-shi, Aomori 036-0357 Tel. +81-(0)172-52-8511	Year of foundation: 1973 Size: 26,346m ² Business areas: Production of medical operating equipment
	Olympus Opto-Electronics Co., Ltd., Aizu Plant 500 Aza-Muranishi, Oaza-lidera, Monden-cho, Aizu-Wakamatsu-shi, Fukushima 965-0846 Tel. +81-(0)242-28-2111	Year of foundation: 1970 Size: 55,019m ² Business areas: Production of medical and industrial endoscopes
	Ohmachi Olympus Co., Ltd. 3798 Aza-Higashihara, Oaza-Tokiwa, Ohmachi-shi, Nagano 398-0004 Tel. +81-(0)261-22-6111	Year of foundation: 1974 Size: 17,669m ² Business areas: Designing and production of die assemblies and plastic moulding
	Mishima Olympus Co., Ltd. 128 Shimotogari, Nagaizumi-machi, Sunto-gun, Shizuoka 411-0943 Tel. +81-(0)559-73-1311	Year of foundation: 1978 Size: 3,787m ² Business areas: Development, production, and service of clinical blood analysers
	Sakaki Olympus Co., Ltd. 1355 Nakanojo, Sakaki-machi, Nagano 389-0602 Tel. +81-(0)268-82-2361	Year of foundation: 1978 Size: 46,096m ² Business areas: Production of camera lenses and printers
	Shirakawa Olympus Co., Ltd. 3-1 Aza-Ohkamiyama, Oaza-Odakura, Nishigo-mura, Nishi-shirakawa-gun, Fukushima 961-8061 Tel. +81-(0)248-27-2211	Year of foundation: 1979 Size: 76,550m ² Business areas: Production of light sources and accessories
	Okaya Olympus Co., Ltd. 3-15-1 Shibamiya, Osachi, Okaya-shi, Nagano 394-0083 Tel. +81-(0)266-27-6111	Year of foundation: 1981 Size: 23,022m ² Business areas: Production of magneto-optical (MO) disk drives, etc.

(As of March 31, 2002)

	Percentage of greenery	Applicable laws	Water consumption (m ³)		Discharge point
Zoning: Semi-industrial zone Total floor space of building: 70,755m ²	46.0%	Air Pollution Control Law, Water Pollution Control Law, Law concerning the Rational Use of Energy (specified as Category 1 Types of Energy)	City water Ground water Total	10,585 91,980 102,565	Sewage system
Zoning: Industrial zone Total floor space of building: 10,524m ²	16.1%	Noise Control Law, Vibration Control Law	City water Ground water Total	8,725 0 8,725	Sewage system
Zoning: Semi-industrial zone Total floor space of building: 41,721m ²	22.5%	Air Pollution Control Law, Water Pollution Control Law, Sewage Water Law, Noise Control Law, Vibration Control Law, Offensive Odour Control Law, Law concerning the Rational Use of Energy (specified as the Category 2 Types of Energy)	City water Ground water Total	9,400 282,265 291,665	River
Zoning: Industrial zone Total floor space of building: 46,305m ²	29.3%	Air Pollution Control Law, Water Pollution Control Law, Law concerning the Rational Use of Energy (specified as Category 1 Types of Energy)	City water Ground water Total	11,000 452,000 463,000	River
Zoning: Non-zoning district Total floor space of building: 4,096m ²	20.0%	Water Pollution Control Law,	City water Ground water Total	9,398 2,866 12,264	Ground infiltration
Zoning: Class II semi-industrial zone Total floor space of building: 5,482m ²	15.8%	Air Pollution Control Law, Water Pollution Control Law, Noise Control Law, Vibration Control Law	City water Ground water Total	2,916 4,131 7,047	Sewage system
Zoning: Industrial zone Total floor space of building: 8,967m ²	25.8%	Air Pollution Control Law, Noise Control Law, Vibration Control Law	City water Ground water Total	9,575 4,545 14,120	Sewage system
Zoning: Industrial zone Total floor space of building: 27,105m ²	27.2%	Air Pollution Control Law, Water Pollution Control Law, Noise Control Law, Vibration Control Law	City water Ground water Total	0 167,832 167,832	River
Zoning: Industrial zone Total floor space of building: 7,117m ²	21.0%	Law concerning the Rational Use of Energy (specified as Category 2 Types of Energy)	City water Ground water Total	680 17,340 18,020	River
Zoning: Semi-industrial zone Total floor space of building: 5,931m ²	12.6%	Noise Control Law, Offensive Odour Control Law	City water Ground water Total	17,300 0 17,300	River
Zoning: Industrial zone Total floor space of building: 15,475m ²	27.0%	Air Pollution Control Law, Water Pollution Control Law, Noise Control Law, Law concerning the Rational Use of Energy (specified as Category 2 Types of Energy)	City water Ground water Total	42,806 113,356 156,162	River
Zoning: Industrial zone Total floor space of building: 11,500m ²	24.4%	Air Pollution Control Law, Water Pollution Control Law, Noise Control Law, Vibration Control Law	City water Ground water Total	7,840 5,145 12,985	River and Sewage system
Zoning: Semi-industrial zone Total floor space of building: 15,106m ²	19.2%	Air Pollution Control Law, Water Pollution Control Law, Noise Control Law, Vibration Control Law, Offensive Odour Control Law, Ground Settlement, Soil Pollution	City water Ground water Total	4,849 238,286 243,135	Sewage system

Environmental Data at Facilities



FY2002 Domestic Data

Facility	Air				Water						Noise				Power [10,000 kWh]		
	Number of boilers	Soot and dust [g/m ³ N]	NOx [cm ³ /m ³ N]	SOx [m ³ N/h]	pH	BOD [mg/ℓ]	COD [mg/ℓ]	SS [mg/ℓ]	n-H [mg/ℓ]	Bacillus [number/m ³]	Morning [dB]	Daytime [dB]	Evening [dB]	Night time [dB]			
Olympus Optical Co., Ltd.	Technology Research Institute (Hachioji)	3	0.015 (0.3)	64 (100)	0.032 (3.62)	7.8 (5~9)	54 (600)		ND (600)							1,797	
	Hinode Plant					7.4 (5~9)	300 (600)		190 (600)			- (55)	54 (60)	- (55)	- (50)	210	
	Ina Plant	4	0.005 (0.3)	130 (180)	0.066 (0.1)	7.9 (5.8~8.6)	2.9 (30)		13 (50)	1.0 (30)	ND (3,000)	- (65)	56 (65)	- (65)	55 (55)	1,214	
	Tatsuno Plant	15	0.010 (0.3)	96 (180)	0.1 (2.4)	7.5 (5.8~8.6)	4.8 (30)		7 (50)	0.2 (30)	5 (3,000)					1,884	
Manufacturing Affiliates in Japan	Tokyo Kinzoku Co., Ltd., Kyowa Plant					8.0	439		82	12	400					520	
	Olympus Opto-Electronics Co., Ltd.	Tokyo Plant	1	0.030 (0.15)	71 (120)	0.021 (1.2)							59 (50)	60 (60)	59 (50)	45 (50)	110
		Aomori Plant	2	0.011 (0.3)	97 (180)	0.044 (4.4)	7.5	25	100	10	2.2	4,900	50 (65)	51 (70)	50 (65)	47 (55)	247
		Aizu Plant	13	0.088 (0.3)	120 (260)	0.05 (1.05)	7.8 (5.8~8.6)	35 (160)		6.8 (200)	ND (30)	36 (3,000)	52 (60)	59 (65)	53 (60)	54 (55)	1,204
	Ohmachi Olympus Co., Ltd.					6.6 (5.8~8.6)	10 (160)		15 (200)	1.0 (5)	ND (3,000)					1,035	
	Mishima Olympus Co., Ltd.					7.6 (6~8.5)	5.0 (8)		5 (100)	1.0 (30)		- (45)	- (50)	- (45)	- (45)	106	
	Sakaki Olympus Co., Ltd.	1	ND (0.3)	100 (180)	0.14 (2)	8.0 (5.8~8.6)	8.4 (30)		4.2 (30)	ND (30)	11 (3,000)	52 (70)	53 (70)	52 (70)	52 (65)	591	
	Shirakawa Olympus Co., Ltd.	3	ND (0.3)	69 (180)	0.1 (17.5)	6.6 (5.8~8.6)	3.1 (25)		5.8 (70)	0.9 (10)		- (60)	60 (65)	- (60)	- (55)	360	
	Okaya Olympus Co., Ltd.	3	0.016 (0.3)	120 (250)	ND (3.9)	7.5 (5.8~8.6)			0.7 (30)	ND (50)	ND (30)	59 (3,000)		52 (65)		46 (55)	334

Remarks: Figures enclosed by brackets indicate regulatory values. Cells with no data are not subject to regulations. "-" indicates no measurement. ND indicates below limit of measurement.

Energy						Waste					Amount of PRTR-specified chemicals handled							
	Heavy oil [kℓ]	City gas [10 ³ x m ³]	LPG [10 ³ x m ³]	Gasoline [kℓ]	Other [kℓ]	Co ₂ conversion basis [t·CO ₂]	General waste [t]	Industrial waste [t]	Special waste [t]	Amount of recycling [t]	Rate of recycling [%]	Trichloroethylene [t]	Lead compounds [t]	Xylene [t]	Toluene [t]	Ethylene oxide [t]	Dichloro-methane [t]	Other [t]
	111	677		3.4	58	8,337	54.5	175.3	5.3	342.6	59.3				0.05	0.09		
		22				797	11.9	0.2	0.45	51.9	80.5					0.32		0.04
	264		5.2	20.0	272	5,827	41.1	252.7	68.3	183.3	33.6	0.86	0.30	4.25	1.77		0.77	3.32
	943		7.5	8.5	9	9,428	60.8	50.7	103.6	347.8	61.8		0.32	0.04	0.01			2.06
	540		14.4	8.3	5	3,474	78.6	33.7	0.0	226.7	66.9							
	32	4				490	15.0	0.9	0.0	58.6	78.7		0.49					
	109		2.7	1.1	12	1,233	8.9	0.0	0.0	38.2	81.1				0.24	1.97		0.03
	782		11.0	4.0	5	6,556	59.9	40.9	61.9	170.0	51.1	0.55	3.83	3.49	5.20		0.06	2.68
				3.0	17	3,746	4.2	162.0	15.0	58.0	24.2				0.09		0.09	
						378	15.9	29.0	0.0	44.0	49.5							
	83		2.0	13.0	16	2,422	32.0	45.0	23.0	182.0	64.5			0.08	0.06		0.25	0.07
	43		4.5	3.5	1	1,444	19.7	16.8	0.1	148.9	80.2		2.60			0.66		
	217		1.2	5.0	10	1,838	19.4	16.1	5.9	68.1	62.2		1.26					2.57

The highest value for air, water during the observation period is given.



Overseas Production Bases

Olympus (Shenzhen) Industrial Ltd.

Location: Nanshan, Shenzhen City, China

Number of employees: Approximately 3,800

Main business: Assembly of cameras, mainly processing of lenses, plastic moulding and processing of metal parts

ISO14001 Certification: Obtained September 1999

Features: Shenzhen Industrial Ltd is located in the center of the Shenzhen industrial estate approximately 50km from downtown Hong Kong. The company maintains the natural beauty of the estate with garden, ponds and many trees. It started operation in 1991 and expanded into many different kinds of manufacturing.

The company has also actively promoted environmental management together with its occupational safety and health management. In FY2002 the company achieved further environmental progress in terms of energy saving and recycling of synthetics. It has also received many awards for a high level of safety and hygiene maintained over the past few years.

Main Data

Period covered: April 1, 2001 to March 31, 2002

Category	Item	Amount	Unit
Energy consumption	Electric power	22,570	MWh
	Fuel oil (mainly diesel oil)	3,239	kl
Waste generation	General waste	12	t
	Sludge	124	t
	Waste chemicals	51	t
Recycling	Plastics	194	t
	Paper	1.5	t



Olympus (Shenzhen) Industrial Ltd.



Coating Solvent Recovery Equipment

Olympus Diagnostica GmbH (Irish Branch)

Location: Lismeehan, O'Callaghan's Mills, County Clare, Ireland

Number of employees: Approximately 220

Main business: Development and manufacturing of reagents for clinical blood analysers

ISO14001 Certification: The company expects to obtain the certification in 2003 (systems currently under construction)

Features: Located on a 300-acre site (approximately 1.2 million m²), which boasts forests, wildlife and three lakes, the factory coexists in harmony with the natural environment.

Waste water is discharged into lakes only after being processed to acceptable licensing level. The level is constantly monitored both in-house and by the local licensing body. Medical and chemical wastes are collected and processed using the appropriate methods, in accordance with regional laws. Waste is removed and disposed off site by licensed handlers.

Main activities in FY2003 include upgrade of waste water treatment systems (expected completion, June 2002).

Main Data

Period covered: April 1, 2001 to March 31, 2002

Category	Item	Amount	Unit
Energy consumption	Electric Power	1,511	MWh
	Fuel oil (mainly diesel oil)	68	kl
Waste generation	General waste	75	t
	Sludge	96	kl
	Waste chemicals	240	kl
	Medical waste	7	t
Recycling	Paper	1.5	t



Olympus Diagnostica GmbH (Irish Branch)



Lake on the Premises

KeyMed (Medical & Industrial Equipment) Limited

Location: Stock Road, Southend-on-Sea, United Kingdom
 Number of employees: Approximately 650
 Main business: Sale, repair, development and production of all types of endoscopes.

ISO14001 Certification: Obtained March 2002

Features: The company is located about 40 km east of London in a corner of an industrial estate surrounded by countryside, the headquarters and offices for development and service functions, and the manufacturing facilities are located 500 m apart. The company offers attractive, functional workplaces as well as a high level of welfare. The company has also declared itself a "smoke-free" environment and encourages employees to commute to work by bicycle.

In FY2002 the company introduced the ISO14001 environmental management system which saw progress in the sorting of waste and the saving of energy.

Main Data

Period covered: April 1, 2001 to March 31, 2002

Category	Item	Amount	Unit
Energy consumption	Electric power	4,629	MWh
	City gas	4,994	MWh*
	Transportation fuel (mainly petrol)	320	kl
Resources	Copy paper	15	t
	Package materials	170	t
	Water	10,345	m ³

*Consumption of city gas is expressed on a heat conversion basis (Wh=3,600 J).



KeyMed (Medical & Industrial Equipment) Limited



Environmental Management Manual

Olympus Winter & Ibe GmbH

Location: Kuehnstraße, Hamburg, Germany
 Number of employees: Approximately 500
 Main business: Development, production, sale, and service of rigid borescopes

ISO14001 Certification: Obtained May 2001

Features: The company has operated a strict in-house management system with emphasis on environment and quality. By applying the system and also by urging suppliers to follow suit, the company has been realising great progress on environmental objectives, which include energy consumption, reductions in chemicals and water usage. The company is proud of our relationship with our customers who share our expectation that Olympus products should be environmentally sound. In FY 2002, the company successfully reduced usage of ethyl alcohol in the cleaning process of optical parts through improvements to the washing device, resulting in 45% reduction in annual consumption from 8.2kl to 4.5 kl.

Main Data

Period covered: January 1, 2001 to December 31, 2001

Category	Item	Amount	Unit
Energy consumption	Electric power	2,193	MWh
	City gas	2,225	MWh*
Resources	Water	6,284	m ³

*Consumption of city gas is expressed on a heat conversion basis (Wh=3,600 J).



Olympus Winter & Ibe GmbH



Washing Process Using Ethyl Alcohol