

Safety & Environmental Report 2026

Data by Site

Notes on figures

- The energy consumption is expressed in crude oil equivalents, converted from electricity, heavy oil, diesel oil, kerosene, gasoline, LP gas, and other energy sources.
- The recycling ratio represents the percentage of sold-off/recycled waste.
- Air emission data is measured at exhaust vents and water quality data at the final discharge outlet.
- For PRTR-targeted substances, Special Class 1 restricted substances (the amount usage of 0.5 ton or more per year) and Class 1 restricted substances (the amount usage of 1 ton or more per year) are stated in this report. Figures are rounded to one decimal place.
- All data was from FY2025. It was measured between April 1, 2025 and March 31, 2026.

Notes on Standard Values

- The standard value for air emission is set to the strictest standard value referring to applicable laws, regulations and standards for the equipments.
The observed values are the minimum/maximum among recorded values during the period.
- The standard values for air emission and water quality are the strictest values referring to the applicable laws, regulations and customer's agreements at each site.
- Column marked with an Em Dash ("-") indicates that they are not indispensable.

About Self-Control Standard

- It is the standard to control which defined by calculating value of processing ability from value of past performance. (self-control standard $\leq$ legal standard)

TAIYO YUDEN CO., LTD. Takasaki Global Center

- Total energy consumption (Crude oil equivalent) : 328 kL/year
- Total waste generated : 35 tons/year (recycling rate : 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.
- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Tone River
- Drain destination : Karasu River(Via Sewage)

TAIYO YUDEN CO., LTD. Haruna Plant

- Total energy consumption (Crude oil equivalent) : 7,137 kL/year
- Total waste generated : 283 tons/year (recycling rate : 100 %)
- Air emission : Air Pollution Control Act

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Firing furnace (Electricity)		Soot and dust	0.25	0.01	g/m ³ N	<0.002

- Water quality : Water Pollution Control Act and Prefectural Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.5~8.0	-	7.1	7.4	7.5
Biochemical oxygen demand	25	15	mg/L	<1	1.8	5
Suspended solids	50	10	mg/L	<1	1	1
N-hexane extract (mineral oils)	5	2	mg/L	<1		
Copper content	3	0.1	mg/L	<0.01	0.01	0.01
Zinc content	2	0.1	mg/L	<0.01	0.02	0.06
Soluble iron content	10	0.1	mg/L	<0.01	0.01	0.01
Soluble manganese content	10	0.1	mg/L	<0.01	0.02	0.06
Chromium content	2	0.02	mg/L	<0.01	0.01	0.01
Nitrogen content	120	12	mg/L	4	5	6.2
Phosphorus content	16	0.2	mg/L	0.09	0.16	0.26
Cadmium and its compounds	0.03	0.02	mg/L	<0.003		
Lead and its compounds	0.1	0.02	mg/L	<0.01	0.01	0.01
Arsenic and its compounds	0.1	0.02	mg/L	<0.01	0.01	0.01
Boron and its compounds	10	0.3	mg/L	0.07	0.11	0.18
Fluorine and its compounds	8	0.2	mg/L	<0.1	0.1	0.1
Ammonia, ammonium compounds, nitrite compounds and nitrate compounds	100	20	mg/L	3.9	4.6	5.3

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Spring Water
- Drain destination : Karasu River

TAIYO YUDEN CO., LTD. Nakanojo Plant

- Total energy consumption (Crude oil equivalent) : 2,175 kL/year
- Total waste generated : 166 tons/year (recycling rate : 100 %)
- Air emission : Air Pollution Control Act

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Firing furnace (Electricity)		Soot and dust	0.25	0.06	g/m ³ N	<0.002
Firing furnace	LP gas	NOx	180	35	ppm	6
		Soot and dust	0.25	0.005	g/m ³ N	0.004

- Water quality : Town Sewerage Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.0~9.0	5.0~8.2	-	7.5	7.9	8.2
Biochemical oxygen demand	600	132	mg/L	10	88	280
Suspended solids	600	18	mg/L	1	6	16
N-hexane extract (mineral oils)	5	1	mg/L	1		
N-hexane extract (animal / vegetable oils)	30	6	mg/L	1	2	4
Copper content	3	0.13	mg/L	0.01	0.02	0.05
Zinc content	2	0.73	mg/L	0.03	0.32	1.2
Soluble iron content	10	0.06	mg/L	0.01	0.011	0.02
Soluble manganese content	10	0.01	mg/L	<0.01		
Boron and its compounds	10	0.07	mg/L	0.01	0.02	0.04

- PRTR restricted substances

In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Silver and its water-soluble compounds	0	0	0.1
Chromium and trivalent chromium compounds	0	0	0.4
Nickel compounds	0	0	5.3

- Water source : Spring Water
- Drain destination : Momose River(Via Sewage)

TAIYO YUDEN CO., LTD. Tamamura Plant

- Total energy consumption (Crude oil equivalent) : 22,830 kL/year
- Total waste generated : 1,908 tons/year (recycling rate : 100 %)
- Air emission : Air Pollution Control Act

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Firing furnace (Electricity)		Soot and dust	0.25	0.16	g/m ³ N	0.06
		Soot and dust	0.25	0.03	g/m ³ N	0.016

- Water quality : Water Pollution Control Act, Prefectural Ordinance, Environmental Agreement

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.9~8.0	-	7.4	7.5	7.6
Biochemical oxygen demand	25	13	mg/L	1	1.4	2
Suspended solids	50	30	mg/L	<1	<1	1
N-hexane extract (mineral oils)	5	1	mg/L	<1		
N-hexane extract (animal / vegetable oils)	30	1	mg/L	<1		
Copper content	10	0.03	mg/L	0.02		
Zinc content	10	0.5	mg/L	0.08		
Soluble iron content	2	0.12	mg/L	0.03		
Soluble manganese content	8	0.5	mg/L	0.04		
Chromium content	0.1	0.01	mg/L	<0.01		
E.coli Count	800	30	CFU/mL	<30		
Nitrogen content	120	18	mg/L	2.5	4.8	8.2
Phosphorus content	16	5	mg/L	0.9	1.3	2.3
Lead and its compounds	2	0.01	mg/L	<0.01		
Arsenic and its compounds	0.1	0.01	mg/L	<0.01		
Fluorine and its compounds	3	0.3	mg/L	0.1		
Nickel content	0.3	0.3	mg/L	0.01	0.04	0.06

- PRTR restricted substances In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Toluene	10.6	0	9.7
Nickel	0.1	0	16.0
Nickel compounds	0	0	0.9
Methylnaphthalene	0.1	0	0

- Water source : Tone River
- Drain destination : Karasu River

TAIYO YUDEN CO., LTD. Yawatabara Plant

- Total energy consumption (Crude oil equivalent) : 4,085 kL/year
- Total waste generated : 91 tons/year (recycling rate : 100 %)
- Air emission : Air Pollution Control Act and Environmental Agreement

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Firing furnace (Electricity)		Soot and dust	0.25	0.01	g/m ³ N	0.002

- Water quality : Water Pollution Control Act, Prefectural Ordinance, Environmental Agreement

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.4~8.3	-	6.7	7.1	7.7
Biochemical oxygen demand	25	1	mg/L	1	1.3	4
Suspended solids	50	1	mg/L	1	1.2	2
N-hexane extract (animal / vegetable oils)	30	1	mg/L	1		
Soluble iron content	10	0.02	mg/L	0.01		
E.coli Count	800	800	CFU/mL	30		
Nitrogen content	120	1.5	mg/L	1.1	2.4	5.5
Phosphorus content	16	0.1	mg/L	0.1	0.4	1.1

- PRTR restricted substances

In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Tritolyl Phosphate	0	0	0.1

- Water source : Tone River
- Drain destination : Karasu River

TAIYO YUDEN CO., LTD. R&D Center

- Total energy consumption (Crude oil equivalent) : 1,631 kL/year
- Total waste generated : 164 tons/year (recycling rate : 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Water Pollution Control Act, Prefectural Ordinance, Environmental Agreement

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.0~8.4	-	6.9	7.4	7.7
Biochemical oxygen demand	25	18	mg/L	1	7.8	14
Suspended solids	50	30	mg/L	3	7.9	16
N-hexane extract (animal / vegetable oils)	30	10	mg/L	1		
Phenolic content	1	0.3	mg/L	0.1		
Copper content	3	0.1	mg/L	0.01		
Zinc content	2	0.2	mg/L	0.03		
Soluble iron content	10	0.1	mg/L	0.03		
Soluble manganese content	10	0.1	mg/L	0.02		
Chromium content	2	0.1	mg/L	0.01		
E.coli Count	800	135	CFU/mL	30		
Nitrogen content	120	80	mg/L	15	34.6	62
Phosphorus content	16	12	mg/L	0.96	3.9	5.8
Boron and its compounds	10	0.2	mg/L	0.01		
Fluorine and its compounds	8	0.2	mg/L	0.1		
Ammonia, ammonium compounds, nitrite compounds and nitrate compounds	100	60	mg/L	16.3		

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Groundwater Wells
- Drain destination : Karasu River

TAIYO YUDEN CHEMICAL TECHNOLOGY CO., LTD.

- Total energy consumption (Crude oil equivalent) : 2,587 kL/year
- Total waste generated : 1,204 tons/year (recycling rate : 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Water Pollution Control Act, Prefectural Ordinance, Environmental Agreement

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.5~8.6	-	6.6	7	7.3
Biochemical oxygen demand	25	7	mg/L	<1	3	15
Suspended solids	50	15	mg/L	3	8	13
N-hexane extract (animal / vegetable oils)	5	0.5	mg/L	<1		
Phenolic content	1	0.8	mg/L	<0.1		
Copper content	3	1	mg/L	0.09	0.27	0.86
Zinc content	2	0.4	mg/L	0.04	0.11	0.3
Soluble iron content	10	1	mg/L	0.07	0.31	0.83
Soluble manganese content	10	1	mg/L	0.22	0.38	0.47
Chromium content	2	0.2	mg/L	<0.01		
E.coli Count	800	80	CFU/mL	<30		
Nitrogen content	120	96	mg/L	29	39	54
Phosphorus content	16	13	mg/L	0.39	1.49	4.8
Formaldehyde	10	1	mg/L	1		
Boron and its compounds	10	8	mg/L	1.5	2	2.9
Fluorine and its compounds	8	0.8	mg/L	<0.1	0.1	0.2
Ammonia, ammonium compounds, nitrite compounds and nitrate compounds	100	24	mg/L	9.8	13.5	17

■ PRTR restricted substances

In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Toluene	0	9.7	0
Nickel	0.2	0	11.5
Nickel compound	0.8	5.8	0
Boron compound	0.3	0.4	0

- Water source : Kanna River
- Drain destination : Ayu River

FUKUSHIMA TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 4,329 kL/year
- Total waste generated : 468 tons/year (recycling rate : 100 %)
- Air emission : Measurement was not performed since the facility subjected to legal regulations was out of service.
- Water quality : Water Pollution Control Act and Prefectural Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.3~8.3	-	6.8	7.3	7.7
Biochemical oxygen demand	20	11.7	mg/L	1	1.7	5.6
Suspended solids	50	11.5	mg/L	1	1.3	7.4
N-hexane extract (mineral oils)	1	0.5	mg/L	0.5		
N-hexane extract (animal / vegetable oils)	10	0.6	mg/L	0.5		
Phenolic content	1	0.03	mg/L	0.02		
Copper content	2	0.1	mg/L	0.01	0.02	0.03
Zinc content	2	0.59	mg/L	0.1	0.2	0.6
Soluble iron content	10	0.69	mg/L	0.1	0.2	0.3
Soluble manganese content	10	0.05	mg/L	0.01	0.03	0.04
Chromium content	2	0.06	mg/L	0.1		
E.coli Count	800	160	CFU/mL	0	1.1	8
Nitrogen content	120	28.4	mg/L	1.4	8.1	28
Phosphorus content	16	3.6	mg/L	0.02	0.9	4.5
Boron and its compounds	10	1.48	mg/L	0.02	0.9	1.4
Fluorine and its compounds	8	0.05	mg/L	0.1		

■ PRTR restricted substances

In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Silver and its water-soluble compounds	0	0	3.8
Chromium and trivalent chromium compounds	0	0.1	0
Boron compound	0	0.1	0

- Water source : Surigami River
- Drain destination : Abukuma River

NIIGATA TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 47,983 kL/year
- Total waste generated : 7,073 tons/year (recycling rate : 100 %)
- Air emission : Air Pollution Control Act

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Firing furnace (Electricity)		Soot and dust	0.25	0.17	g/m ³ N	0.06
		Soot and dust	0.25	0.05	g/m ³ N	0.02

- Water quality : Voluntary Monitoring (Not Required by Regulations)

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	6.0~8.4	-	6.9	7.4	8
Biochemical oxygen demand	160	24	mg/L	1.8	6.8	17
Suspended solids	160	20	mg/L	1	4.2	8
N-hexane extract (mineral oils)	5	1	mg/L	0.5		
Copper content	3	0.2	mg/L	0.04	0.045	0.05
Zinc content	2	1.2	mg/L	0.24		
Soluble iron content	10	0.41	mg/L	0.03	0.07	0.1
Soluble manganese content	10	0.11	mg/L	0.05	0.07	0.08
Chromium content	2	0.01	mg/L	0.01		
E.coli Count	800	800	CFU/mL	10		
Nitrogen content	120	6	mg/L	0.2	2.2	4.4
Phosphorus content	16	1.3	mg/L	0.01	0.35	0.79
Lead and its compounds	0.1	0.01	mg/L	0.01		
Arsenic and its compounds	0.1	0.01	mg/L	0.01		
Fluorine and its compounds	8	0.6	mg/L	0.5		
Nickel content	-	0.19	mg/L	0.06	0.11	0.16

- PRTR restricted substances

In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Toluene	22.6	15.7	19.2
Nickel	0	3.4	67.4
Nickel compounds	0	0.1	1.2

- Water source : Kakizaki River
- Drain destination : Hokura River

WAKAYAMA TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 4,326 kL/year
- Total waste generated : 235 tons/year (recycling rate : 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Water Pollution Control Act and Prefectural Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	5.8~8.6	-	6.2	6.7	7.7
Biochemical oxygen demand	160	22.52	mg/L	4.4	11.7	22
Chemical oxygen demand	160	27.18	mg/L	5.1	11.8	30
Suspended solids	200	26.2	mg/L	1	7.6	29
N-hexane extract (mineral oils)	5	0.5	mg/L	0.5		
N-hexane extract (animal / vegetable oils)	30	1.7	mg/L	0.5	0.82	1.4
Phenolic content	5	0.5	mg/L	0.5		
Copper content	3	0.3	mg/L	0.3		
Zinc content	2	0.2	mg/L	0.2		
Soluble iron content	10	0.22	mg/L	0.1	0.11	0.2
Soluble manganese content	10	0.1	mg/L	0.1		
Chromium content	2	0.2	mg/L	0.2		
E.coli Count	800	800	CFU/mL	1		
Nitrogen content	120	3.44	mg/L	0.13	1.75	3.1
Phosphorus content	16	0.046	mg/L	0.01	0.012	0.03
Boron and its compounds	10	0.1	mg/L	0.1		
Fluorine and its compounds	8	0.8	mg/L	0.8		
Ammonia, ammonium compounds, nitrite compounds and nitrate compounds	100	1.4	mg/L	0.1	0.7	1.4
Nickel content	3	0.01	mg/L	0.01		

■ PRTR restricted substances In tons/year

Chemical Substance Name	Total Emissions	Total Transfers	Total Recycles
Silver and its water-soluble compounds	0	5.3	0
Chromium and trivalent chromium compounds	0	1.2	0
Toluene	1.9	5.5	0

- Water source : Kirime River
- Drain destination : Inami River

TAIYO YUDEN Mobile Technology Co., Ltd.

■ Total energy consumption (Crude oil equivalent) : 10,647 kL/year

■ Total waste generated : 93 tons/year (recycling rate : 100 %)

<<Head Office / Main Plant>>

■ Air emission : Air Pollution Control Act and Prefectural Ordinances

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Boiler	Town gas	NOx	45	44	ppm	35
		Soot and dust	0.1	0.0509	g/m ³ N	0.004
Cogeneration facility	Town gas	NOx	500	450	ppm	370
		Soot and dust	0.05	0.025	g/m ³ N	0.002

■ Water quality : Sewerage Act and City Sewerage Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.7~8.7	6.1~8.3	-	6.7	7	7.4
Biochemical oxygen demand	300	240	mg/L	45	68	90
Suspended solids	300	120	mg/L	9.5	26.6	50
Copper content	3	0.5	mg/L	0.05	0.06	0.09
Nitrogen content	120	102	mg/L	12	19	25
Phosphorus content	16	6	mg/L	0.1	0.6	1.1
Boron and its compounds	10	2	mg/L	0.1		
Fluorine and its compounds	8	6	mg/L	0.2	0.6	1
Nickel content	-	2.2	mg/L	0.05	0.09	0.4

■ PRTR restricted substances : Total usage amount is under notification obligation.

■ Water source : Tama River

■ Drain destination : Tama River(Via sewage)

<<Tokorozawa Plant>>

■ Air emission : Measurement was not performed since no facility was subject to legal regulations.

■ Water quality : Water Pollution Control Act and Prefectural Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.0~9.0	6.0~8.0	-	6.7	7	7.2
Biochemical oxygen demand	600	60	mg/L	<1	1.7	2.8
Suspended solids	600	320	mg/L	<1	3.8	4.3
N-hexane extract (mineral content)	5	0.5	mg/L	<0.2		
Nitrogen content	240	30	mg/L	6	15	21
Phosphorus content	32	3.2	mg/L	<0.1		

■ PRTR restricted substances : Total usage amount is under notification obligation.

■ Water source : Ara River

■ Drain destination : Singashi River(Via Sewage)

Kankyo Assist Co., Ltd.

- Total energy consumption (Crude oil equivalent) : 31 kL/year
- Total waste generated : 4 ton/year (recycling rate : 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.
- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Tone River
- Drain destination : Karasu River

ELNA CO., LTD.

- Total energy consumption (Crude oil equivalent) : 3,653 kL/year
- Total waste generated : 551 tons/year (recycling rate : 100 %)

<<Shirakawa Plant>>

- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Water Quality Pollution Control Act Prefectural Ordinances

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.8~8.6	5.8~8.6	-	7.3		
Biochemical oxygen demand	40	20	mg/L	4.3	13.2	22
Chemical oxygen demand	40	20	mg/L	9.7	17.3	24.8
Suspended solids	70	10	mg/L	<1	8.7	16.4
N-hexane extract (mineral oils)	1	1	mg/L	<1		
E.coli Count	800	800	CFU/mL	2	81	160
Phosphorus content	16	4	mg/L	2.1	3.2	4.3
Ammonia, ammonium compounds, nitrite compounds and nitrate compounds	100	40	mg/L	21	25	29

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Hokkwa River
- Drain destination : Hokkwa River

<<Aomori Plant>>

- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Water Pollution Control Act and City Sewerage Ordinance

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.0~9.0	5.0~9.0	-	6.8	7.8	8.9
Biochemical oxygen demand	600	300	mg/L	1	105	390
Suspended solids	600	100	mg/L	1	50	200
N-hexane extract(mineral oils)	5	2	mg/L	0.5	0.54	0.7
N-hexane extract(animal / vegetable oils)	30	30	mg/L	0.8	6.3	20
Iodine consumption	220	50	mg/L	0.5	11.7	60

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Asaseishikawa River
- Drain destination : Iwaki River(Via Sewage)

KOREA KYONG NAM TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 46,560 kL/year
- Total waste generated : 7,045 tons/year (recycling rate : 90.8 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Scrubber	-	Soot and dust	30	5.9	g/m ³ N	0
		Ammonia	30	3	ppm	0
		SOx	200	6.7	ppm	0
		Copper	4	0.2	g/m ³ N	0
		Nickel	2	1	g/m ³ N	0
		Total Hydrocarbon (THC)	200	55	ppm	0
Regenerative Thermal Oxidizer (RTO)	LP gas	Toluene	30	0.8	ppm	0
		Nickel	2	1	g/m ³ N	0
		Total Hydrocarbon (THC)	100	45	ppm	62.4
		Terpineol	-	1.2	ppm	0
Drying furnace	LP gas	Soot and dust	30	4.5	g/m ³ N	2.1
Bag filter	-	Soot and dust	30	4.5	g/m ³ N	1.3

■ Water quality

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Temperature	40	40	°C	9.1	19	28.9
Hydrogen ion concentration	5.8~8.6	6.0~8.0	-	7.6	7.7	7.8
Biochemical oxygen demand	300	34	mg/L	21.4	23.1	24.8
Total organic carbon	170	10	mg/L	4.1	4.9	5.6
Suspended solids	300	25	mg/L	12.8	17.5	22.2
N-hexane extract (mineral content)	5	1.1	mg/L	0		
N-hexane extract (animal/plant content)	30	1.1	mg/L	0		
Copper content	3	1	mg/L	0.068	0.083	0.097
Nitrogen content	60	42	mg/L	26.6	33.1	39.6
Phosphorus content	20	1.5	mg/L	0.14	0.23	0.32
Anionic surfactant	5	0.5	mg/L	0.1		
Tin content	5	0.5	mg/L	0.03	0.05	0.07
Nickel content	3	1.5	mg/L	0.186	0.189	0.192
Chromium content	2	1	mg/L	0		
Zinc content	5	0.3	mg/L	0.008	0.024	0.04
Soluble manganese content	10	0.2	mg/L	0.011	0.013	0.015
Soluble iron content	10	0.5	mg/L	0.198	0.222	0.246
Barium content	10	1	mg/L	0.119	0.193	0.267

- Water source : Jinjunamgang River
- Drain destination : Yonghyeon Sea

TAIYO YUDEN (CHANGZHOU) CO., LTD.

- Total energy consumption (Crude oil equivalent) : 20,750 kL/year
- Total waste generated : 1,080 tons/year (recycling rate 78.2 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Boiler	Natural gas	Ringelmann smoke density	1	1	class	1
		Total suspended particulates	10	10	mg/m³N	N.D.
		Sulfur dioxide	35	4	mg/m³N	3
Firing furnace (Electricity)		Isopropyl alcohol	80	1	mg/m³N	0.013
		Sulfur dioxide	200	200	mg/m³N	N.D.
		Total suspended particulates	20	20	mg/m³N	N.D.
		NOx	50	9	mg/m³N	7

■ Water quality

Industrial wastewater

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Suspended solids	30	30	mg/L	1.3	10	26
Ammonia nitrogen	45	5	mg/L	3	3.3	5.5
Total iron content	2	1	mg/L	0.03	0.15	0.67
Total aluminum content	2	1	mg/L	0.05	0.16	0.57
Tin content	5	2	mg/L	0.0003		
Hydrogen chloride content	800	200	mg/L	96.3		

Human sewage

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	6.5~9.0	6.5~9.0	-	7.0		
Biochemical oxygen demand	-	350	mg/L	48.77		
Chemical oxygen demand	500	200	mg/L	107.67		
Suspended solids	400	100	mg/L	27.33		
Animal/Vegetable oils	100	10	mg/L	0.27		
Nitrogen content	70	60	mg/L	43.3		
Phosphorus content	8	5	mg/L	3.79		
Ammonia nitrogen	45	40	mg/L	29.23		
Anionic surfactant	20	10	mg/L	0.48		

- Water source : Chan Jiang
- Drain destination : Longzihe River

TAIYO YUDEN (GUANGDONG) CO., LTD.

- Total energy consumption (Crude oil equivalent) : 31,473 kL/year
- Total waste generated : 1,564 tons/year (recycling rate : 100 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Firing furnace	-	VOCs	30	30	mg/m ³ N	8.77
Boiler	Natural gas	Ringelmann smoke density	1	1	class	<1
		Sulfur dioxide	35	35	mg/m ³ N	0
		Total suspended particulates	10	10	mg/m ³ N	7
		NOx	50	50	mg/m ³ N	46
Generator	Kerosene	Ringelmann smoke density	1	1	class	0.5
		Sulfur dioxide	500	500	mg/m ³ N	105
		Total suspended particulates	120	120	mg/m ³ N	<20
		NOx	120	120	mg/m ³ N	109
Regenerative Thermal Oxidizer (RTO)	Natural gas	VOCs	30	30	mg/m ³ N	8.81
		Total suspended particulates	120	120	mg/m ³ N	0
		NOx	120	120	mg/m ³ N	4
Cafeteria	Natural gas	Oily smoke	2	2	ppm	0.9
Scrubber	-	Hydrogen chloride	15	15	mg/m ³ N	1.18
		NOx	120	120	mg/m ³ N	N.D.

- Water quality
- Industrial wastewater

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	6.0~9.0	6.0~9.0	-	7.22	7.54	7.75
Biochemical oxygen demand	20	20	mg/L	1.4	6.7	12.7
Chemical oxygen demand	80	80	mg/L	7	12	23
Suspended solids	30	30	mg/L	6		
Ammonia nitrogen	10	10	mg/L	0.04	0.54	1.13
Nitrogen content	20	20	mg/L	4.0	7.5	14.6
Phosphorus content	0.5	0.5	mg/L	0.04		
Petroleum products content	2	2	mg/L	N.D.		
Fluorine content	10	10	mg/L	0.078	0.168	0.283
Cyanide content	0.2	0.2	mg/L	0.008	0.034	0.078
Chromium content	0.5	0.5	mg/L	N.D.		
Hexavalent chromium content	0.1	0.1	mg/L	N.D.		
Nickel content	0.5	0.5	mg/L	0.002	0.008	0.026
Cadmium content	0.01	0.01	mg/L	N.D.		
Silver content	0.1	0.1	mg/L	N.D.		
Lead content	0.1	0.1	mg/L	N.D.		
Mercury content	0.05	0.05	mg/L	0.001		
Copper content	0.5	0.5	mg/L	0.0004	0.001	0.002
Zinc content	1	1	mg/L	0.0014	0.009	0.036
Iron content	2	2	mg/L	0.04		
Aluminum content	2	2	mg/L	0.21		
TOC content	20	20	mg/L	2.7	4.5	9.7
Phosphorus content	0.5	0.5	mg/L	0.00024	0.001	0.0021
Anionic surfactant	5	5	mg/L	0.06		

Human sewage

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	6.0~9.0	6.0~9.0	-	7.7		
Biochemical oxygen demand	300	300	mg/L	44.6		
Chemical oxygen demand	500	500	mg/L	115		
Suspended solids	400	400	mg/L	41		
Animal/Vegetable oils content	100	100	mg/L	0.64		
Petroleum products content	20	20	mg/L	0.32		
Anionic surfactant	20	20	mg/L	2.64		
Total phosphorus	8	8	mg/L	2.84		

- Water source : Dong River
- Drain destination : Dong River

TAIYO YUDEN (PHILIPPINES), INC.

- Total energy consumption (Crude oil equivalent) : 15,666 kL/year
- Total waste generated : 1,247 tons/year (recycling rate : 84.3 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Scrubber	-	Hydrogen sulfide	7	5.6	mg/m ³ N	<0.139
		Nitrogen dioxide	500	400	mg/m ³ N	<0.941
		Sulfur dioxide	200	160	mg/m ³ N	N.D.

■ Water quality

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	6.0~9.0	6.6 ~ 8.4	-	6.6	7.5	8.5
Color	150	120	TCU	5	7.5	10
Biochemical oxygen demand	100	80	mg/L	3	15.7	33
Chemical oxygen demand	200	160	mg/L	4	31.3	114
Total suspended solids	100	80	mg/L	4	9.9	18
Oil & Grease	10	8	mg/L	<1		
Silver content	1	0.8	mg/L	<0.02		
Lead content	0.1	0.08	mg/L	<0.01		
Zinc content	1.5	1.2	mg/L	<0.02		
Nickel content	0.3	0.24	mg/L	0.03	0.13	0.3
Fluorine content	3	2.4	mg/L	0.02	0.05	0.14
Boron content	20	16	mg/L	0.85	1.23	1.63
Trichloroethylene	9	7.2	mg/L	0.0003	0.0008	0.0013
Arsenic content	0.04	0.032	mg/L	0.001	0.0055	0.01
Chromium content	0.1	0.08	mg/L	0.009		
Iron content	7.5	6	mg/L	0.13	1.81	4.42
Manganese content	4	3.2	mg/L	0.02	0.057	0.16
Mercury content	0.004	0.0032	mg/L	0.0001	0.000325	0.001
Phenol content	0.5	0.4	mg/L	<0.001		
Anionic surfactant	15	12	mg/L	0.13		
Cadmium content	0.01	0.008	mg/L	<0.003		
Copper content	0.04	0.032	mg/L	<0.02		

- Water source : Groundwater Wells
- Drain destination : Mactan Channel Sea

TAIYO YUDEN (SARAWAK) SDN.BHD.

- Total energy consumption (Crude oil equivalent) : 47,367 kL/year
- Total waste generated : 7,278 tons/year (recycling rate : 92.8 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Scrubber	-	Hydrogen chloride	0.03	0.00827	g/m ³ N	0.00172
		Sulfuric acid	0.005	0.00377	g/m ³ N	0.00074
Boiler	LP gas	Dust Particulate	0.05	0.024	g/m ³ N	0.013
		Dark Smoke	20	20	%	0
Regenerative Thermal Oxidizer(RTO)	LP gas	Dust Particulate	0.05	0.04	mg/m ³ N	0.018
		Dark Smoke	20	20	%	0

■ Water quality

Industrial wastewater

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Temperature	40	32	°C	26.7	28.4	29.5
Hydrogen ion concentration	5.5~9.0	6.6~8.9	-	7	7.8	8.5
Biochemical oxygen demand	50	17.6	mg/L	2	2.1	3.5
Chemical oxygen demand	200	90.6	mg/L	33	47	66
Suspended solids	100	18.8	mg/L	5		
Ammoniacal nitrogen	20	16	mg/L	10.8	15.2	19.6
Copper content	1	0.8	mg/L	0.06	0.16	0.29
Zinc content	2	0.12	mg/L	0.1		
Nickel content	1	0.63	mg/L	0.2	0.24	0.3
Soluble iron content	5	1.89	mg/L	0.3	0.5	1.1
Tin content	1	0.48	mg/L	0.01	0.05	0.1

Human sewage

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.5~9.0	7.2~8.7	-	7	7.4	8.2
Biochemical oxygen demand	50	3.56	mg/L	2		
Chemical oxygen demand	200	55.6	mg/L	15	38.4	51
Suspended solids	100	5	mg/L	5		
Oil & Grease	10	1	mg/L	1		
Ammoniacal nitrogen	20	3.42	mg/L	0.6	1.1	1.7

- Water source : Kitang River
- Drain destination : Sarawak River

ELNA (MALAYSIA) SDN. BHD.

- Total energy consumption (Crude oil equivalent) : 2,612 kL/year
- Total waste generated : 130 tons/year (recycling rate : 100 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Equipment exhaust	-	Total Particulate Matter	150	150	g/m ³ N	6.45

■ Water quality

Industrial wastewater

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.5~9.0	6.0~8.5	-	7.4	7.43	7.5
Biochemical oxygen demand	50	35	mg/L	12	13	14
Chemical oxygen demand	200	180	mg/L	52	56	60
Total Suspended Solid	100	60	mg/L	2	3	5
Lead content	1	0.3	mg/L	0.1		
Copper content	1	0.8	mg/L	0.05	0.07	0.13
Nickel content	1	0.8	mg/L	0.1	0.13	0.32
Tin content	1	0.85	mg/L	0.5		
Zinc content	2	1.8	mg/L	0.04	0.13	0.41
Boron content	4	3.5	mg/L	0.1		
Iron content	5	4.5	mg/L	0.04	0.13	0.41
Oil & Grease	10	8	mg/L	1		

Human sewage

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Biochemical oxygen demand	100	80	mg/L	8	15	19
Chemical oxygen demand	300	240	mg/L	32	62	80
Total Suspended Solid	120	96	mg/L	7	20	29
Ammoniacal nitrogen	80	64	mg/L	8.2	12.2	23

- Water source : Muda River
- Drain destination : Juru River

ELNA (THAILAND) CO., LTD.

- Total energy consumption (Crude oil equivalent) : 2,129 kL/year
- Total waste generated : 260 tons/year (recycling rate : 59.9 %)
- Air emission

Equipment	Fuel	Emissions to Air	Emission Limit	Self-control Standard	Unit	Actual Max.
Experimental exhaust	-	Sulfuric acid	25	25	g/m ³ N	0.01

■ Water quality

Industrial wastewater

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Formaldehyde	1	0.9	-	0		
Phenolic content	1	0.9	mg/L	0		
Arsenic content	0.25	0.23	mg/L	0		
Barium content	1	0.9	mg/L	0.12		
Cadmium content	0.03	0.027	mg/L	0		
Hexavalent chromium content	0.25	0.23	mg/L	0		
Trivalent chromium content	0.75	0.68	mg/L	0		
Copper content	2	1.8	mg/L	0.002		
Cyanide content	0.2	0.18	mg/L	0		
Lead content	0.2	0.18	mg/L	0		
Manganese content	5	4.5	mg/L	0.03		
Mercury content	0.005	0.0045	mg/L	0		
Nickel content	1	0.9	mg/L	0.002		
Selenium content	0.02	0.018	mg/L	0		
Zinc content	5	4.5	mg/L	0.02		
Residual free chlorine content	1	0.9	mg/L	0.1		
Sulfide content	1	0.9	mg/L	0		
Suspended solids	50	45	mg/L	0		
Total dissolved solids	3,000	2,700	mg/L	360		

Human sewage

Item	Effluent Std.	Self-control Standard	Unit	Actual		
				Min.	Ave.	Max.
Hydrogen ion concentration	5.5~9.0	6.0~8.0	-	6.8	7.4	7.7
Biochemical oxygen demand	20	18	mg/L	0.1	1	1.8
Chemical oxygen demand	120	108	mg/L	14.7	20.1	27.2
Suspended solids	50	45	mg/L	0	3.9	22.6
Total kjeldahl Nitrogen	100	90	mg/L	0.2	2.4	6.3
Oil & Grease	5	4.5	mg/L	0.4	0.9	1.3

- Water source : Groundwater Wells
- Drain destination : Ping River