

# ภาคผนวก ค

## รายงานผลการวิเคราะห์



รายงานผลการวิเคราะห์  
บริษัท เทคโนโลยีสิ่งแวดล้อมไทย จำกัด





## TEST REPORT

**Analysis No.** : R23-2981  
**Received Date** : 25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 26-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			CASTING GROUP	
			2309-AS0795	
			Dust Collector 400 A-Line No. 1 (Outlet)	
1	Sampling Date	-	22/09/23	
2	Stack Diameter	m	Ø 0.80	
3	Temperature <sup>(1)</sup>	°C	46	
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.2	
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	4.6	
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	4.2	
7	Moisture Content <sup>(1)</sup>	%	1.51	
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9	
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0	
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2	

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			CASTING GROUP					
			2309-AS0795					
			Dust Collector 400 A-Line No. 1 (Outlet)		(A)		(B)	
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.0	0.0040 (g/s)	20	0.11700 (g/s)	240	26-27/09/23
HF <sup>(2)</sup>	ppm	Absorption, IC Method (US.EPA Method 26, Oct 07, 2020)	< 0.012	< 0.00004 (g/s)	-	-	-	26/09/23
HCl <sup>(2)</sup>	mg/Nm <sup>3</sup>	Absorption, IC Method (US.EPA Method 26, Oct 07, 2020)	0.02	0.00008 (g/s)	-	-	160	26/09/23

**Remarks** : Dust Collector 400 A-Line No. 1 (Outlet) = 47P 0671230 UTM 1560571

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)  
Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
06/10/23

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 26-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0797
			Dust Collector 400 A-Line No. 2 (Outlet)
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 0.75
3	Temperature <sup>(1)</sup>	°C	42
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.5
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	3.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	3.1
7	Moisture Content <sup>(1)</sup>	%	1.85
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			CASTING GROUP					
			2309-AS0797					
			Dust Collector 400 A-Line No. 2 (Outlet)		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.8	0.0025 (g/s)	20	0.15500 (g/s)	240	26-27/09/23
HF <sup>(2)</sup>	ppm	Absorption, IC Method (US.EPA Method 26, Oct 07, 2020)	< 0.012	< 0.00003 (g/s)	-	-	-	26/09/23
HCl <sup>(2)</sup>	mg/Nm <sup>3</sup>	Absorption, IC Method (US.EPA Method 26, Oct 07, 2020)	< 0.01	< 0.00003 (g/s)	-	-	160	26/09/23

**Remarks** : Dust Collector 400 A-Line No. 2 (Outlet) = 47P 0671238 UTM 1560575

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager



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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22-27/09/236  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0799
			Dust Collector 1,500 A-Line No. 3 (Outlet)
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 1.49
3	Temperature <sup>(1)</sup>	°C	48
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	13.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	12.0
7	Moisture Content <sup>(1)</sup>	%	2.36
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			CASTING GROUP					
			2309-AS0799					
			Dust Collector 1,500 A-Line No. 3 (Outlet)		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.6	0.0194 (g/s)	15.00	0.37500 (g/s)	240	26-27/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	3.00	0.0675 (g/s)	6.00	0.28221 (g/s)	200	22/09/23

**Remarks** : Dust Collector 1,500 A-Line No. 3 (Outlet) = 47P 0671205 UTM 1560568

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Warerut Prachumdaeng  
Chief of Laboratory



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0793
			Melting Stack A-Line No. 2
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 1.12
3	Temperature <sup>(1)</sup>	°C	240
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.5
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	9.4
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	5.2
7	Moisture Content <sup>(1)</sup>	%	3.25
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	8.4
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			CASTING GROUP					
			2309-AS0793					
			Melting Stack A-Line No. 2		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	5.9	0.0307 (g/s)	30.00	0.22500 (g/s)	240	26-27/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	26.00	0.2561 (g/s)	45.00	0.63497 (g/s)	200	22/09/23

**Remarks** : Melting Stack A-Line No. 2 = 47P 0671195 UTM 1560635

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Porntip Pethshee  
Laboratory Manager  
06/10/23

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Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 21-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0706
			Homogenize Stack A-Line No. 1
1	Sampling Date	-	21/09/23
2	Stack Diameter	m	Ø 0.65
3	Temperature <sup>(1)</sup>	°C	152
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.3
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	2.8
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.9
7	Moisture Content <sup>(1)</sup>	%	2.46
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	10.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.4
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			CASTING GROUP					
			2309-AS0706					
			Homogenize Stack A-Line No. 1		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.0	0.0018 (g/s)	20.00	0.06000 (g/s)	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	20.00	0.0706 (g/s)	30.00	0.16933 (g/s)	200	21/09/23

**Remarks** : Homogenize Stack A-Line No. 1 = 47P 0671152 UTM 1560616

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

๒๖/๙/๒๕๖๕



Approved by

Mrs. Porntip Pethshee

Laboratory Manager

๑๓/๑๐/๒๕๖๕

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## TEST REPORT

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 20-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0663
			Billet Heating Furnace (BHF) B-Line No. 1
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.35
3	Temperature <sup>(1)</sup>	°C	200
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.0
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.6
7	Moisture Content <sup>(1)</sup>	%	2.61
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	13.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	5.4
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0663					
			Billet Heating Furnace (BHF) B-Line No. 1		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.7	0.0010 (g/s)	15.00	0.01125 (g/s)	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	14.00	0.0155 (g/s)	30.00	0.04233 (g/s)	200	20/09/23

**Remarks** : Billet Heating Furnace (BHF) B-Line No. 1 = 47P 0671134 UTM 1560781

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565) South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
06/10/23

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## TEST REPORT

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0596
			Billet Heating Furnace (BHF) C-Line No. 1
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	190
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3
7	Moisture Content <sup>(1)</sup>	%	2.78
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	12.6
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	5.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0596					
			Billet Heating Furnace (BHF) C-Line No. 1		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.3	0.0004 (g/s)	15.00	0.00750 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	5.66	0.0034 (g/s)	30.00	0.02822 (g/s)	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 1 = 47P 0671183 UTM 1560749

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

06/10/23



Approved by

Mrs. Pornip Pethshee

Laboratory Manager

06/10/23

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**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0597
			Billet Heating Furnace (BHF) C-Line No. 2
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	200
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3
7	Moisture Content <sup>(1)</sup>	%	2.70
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	11.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0597					
			Billet Heating Furnace (BHF) C-Line No. 2		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.3	0.0004 (g/s)	15.00	0.00750 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	5.66	0.0030 (g/s)	45.00	0.04233 (g/s)	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 2 = 47P 0671202 UTM 1560749

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๑๖ / ๑๐ / ๒๓



Approved by

Mrs. Pornip Pethshee  
Laboratory Manager  
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## TEST REPORT

**Analysis No.** : R23-2981  
**Received Date** : 19/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0598
			Billet Heating Furnace (BHF) C-Line No. 3
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	130
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.4
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.4
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3
7	Moisture Content <sup>(1)</sup>	%	2.62
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	14.4
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.8
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0598					
			Billet Heating Furnace (BHF) C-Line No. 3		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.8	0.0002 (g/s)	15.00	0.00750 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	7.00	0.0040 (g/s)	30.00	0.02822 (g/s)	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 3 = 47P 0671219 UTM 1560754

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

66/6/67



Approved by

Mrs. Pornpip Pethshee

Laboratory Manager

66/6/67

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0599
			Billet Heating Furnace (BHF) C-Line No. 4
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	220
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.4
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.2
7	Moisture Content <sup>(1)</sup>	%	3.08
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	16.4
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	3.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0599					
			Billet Heating Furnace (BHF) C-Line No. 4		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.9	0.0002 (g/s)	15.00	0.00750 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	7.33	0.0032 (g/s)	30.00	0.02822 (g/s)	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 4 = 47P 0671250 UTM 1560751

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requirement Environmental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

๔๖ / ๙ / ๒๓

Approved by

Mrs. Pomtip Pethshee

Laboratory Manager

๔๖ / ๙ / ๒๓



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## TEST REPORT

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 20-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0662
			Aging Stack B-Line
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.56
3	Temperature <sup>(1)</sup>	°C	188
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	2.0
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	Moisture Content <sup>(1)</sup>	%	2.51
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	16.0
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	3.8
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0662					
			Aging Stack B-Line		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.1	0.0013 (g/s)	15.00	0.02625 (g/s)	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	15.20	0.0353 (g/s)	25.00	0.08231 (g/s)	200	20/09/23

**Remarks** : Aging Stack B-Line = 47P 0671154 UTM 1560836

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

06/10/23



Approved by

Mrs. Pornpip Pethshee

Laboratory Manager

06/10/23



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**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			EXTRUSION GROUP	
			2309-AS0592	2309-AS0593
			Aging Stack C-Line No. 1	Aging Stack C-Line No. 2
1	Sampling Date	-	18/09/23	18/09/23
2	Stack Diameter	m	Ø 0.27	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	130	125
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.1	5.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.4	0.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3	0.2
7	Moisture Content <sup>(1)</sup>	%	2.20	2.02
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	17.0	17.0
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	2.4	2.4
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1	756.1

Parameter	Unit	Method	Result				Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP							
			2309-AS0592		2309-AS0593		(A)	(B)		
			Aging Stack C-Line No. 1	Aging Stack C-Line No. 2						
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.4	0.0001 (g/s)	0.5	0.0001 (g/s)	15.00	0.00750 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	18.90	0.0104 (g/s)	14.60	0.0064 (g/s)	35.00	0.03292 (g/s)	200	18/09/23

**Remarks** : Aging Stack C-Line No. 1 = 47P 0671198 UTM 1560873  
Aging Stack C-Line No. 2 = 47P 0671220 UTM 1560873

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis. (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2020) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source : Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

06/10/23



Approved by

Mrs. Pornpip Pethshee

Laboratory Manager

06/10/23

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**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0594
			Aging Stack Mini - Line
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.30
3	Temperature <sup>(1)</sup>	°C	146
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.1
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.6
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.4
7	Moisture Content <sup>(1)</sup>	%	2.15
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	16.6
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	4.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0594					
			Aging Stack Mini - Line					
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.7	0.0003 (g/s)	15.00	0.00750 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	9.90	0.0074 (g/s)	25.00	0.02352 (g/s)	200	18/09/23

**Remarks** : Aging Stack Mini - Line = 47P 0671084 UTM 1560812

- (1) Flue conditions  
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory  
(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)  
Source : Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
06/10/23

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## TEST REPORT

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 19-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0664
			Al Die Casting Stack
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	0.50 x 0.45
3	Temperature <sup>(1)</sup>	°C	65
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.3
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.6
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.4
7	Moisture Content <sup>(1)</sup>	%	1.44
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0664					
			Al Die Casting Stack		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.0	0.0014 (g/s)	40.00	0.08000 (g/s)	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	3.50	0.0094 (g/s)	5.00	0.01881 (g/s)	200	19/09/23

**Remarks** : Al Die Casting Stack = 47P 0671542 UTM 1560851

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

๒๖/๙/๒๓



Approved by

Mrs. Pomtip Pethshee

Laboratory Manager

๒๖/๙/๒๓

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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 19-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0631
			Zn Die Casting Stack
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	Ø 0.50
3	Temperature <sup>(1)</sup>	°C	42
4	Stack Gas Velocity <sup>(1)</sup>	m/s	6.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	Moisture Content <sup>(1)</sup>	%	1.99
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result		Standard (With Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0631					
			Zn Die Casting Stack					
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	2.2	0.0026 (g/s)	21.00	0.05250 (g/s)	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	3.00	0.0067 (g/s)	5.00	0.02352 (g/s)	200	19/09/23

**Remarks** : Zn Die Casting Stack = 47P 0671546 UTM 1560806

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)  
Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๒๖/๙/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
๒๖/๙/๒๓

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**Report Date** : 06/10/23  
**Analysis Date** : 21/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0628
			Die Cleaning Scrubber A-Line
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	0.50 x 0.40
3	Temperature <sup>(1)</sup>	°C	30
4	Stack Gas Velocity <sup>(1)</sup>	m/s	5.5
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.1
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.1
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Analysis Date
			EXTRUSION GROUP	
			2309-AS0628	
			Die Cleaning Scrubber A-Line	
NaOH <sup>(2)</sup>	mg/Nm <sup>3</sup>	Filtering, Titrimetric (NIOSH 7401, Issue 2 Aug 1994)	< 0.40	21/09/23

**Remarks** : Die Cleaning Scrubber A-Line = 47P 0671100 UTM 1560720

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
06/10/23

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**Report Date** : 06/10/23  
**Analysis Date** : 20-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0630
			Die Pollishing Stack (Outlet)
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	Ø 0.75
3	Temperature <sup>(1)</sup>	°C	28
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.2
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	3.2
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	3.1
7	Moisture Content <sup>(1)</sup>	%	1.11
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result		Standard (Without Combustion)			Analysis Date
			EXTRUSION GROUP					
			2309-AS0630					
			Die Polishing Stack (Outlet)		(A)	(B)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.9	0.0029 (g/s)	15	0.08250 (g/s)	300	20-22/09/23

**Remarks** : Die Pollishing Stack (Outlet) = 47P 0671098 UTM 1560699

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** (A) According to Specified Requiremental Impact Assessment of Tostem Thai Co., Ltd. (2022) (B.E. 2565)/South Factory

(B) Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

06/10/23



Approved by

Mrs. Porntip Pethshee

Laboratory Manager

06/10/23





## TEST REPORT

**Analysis No.** : R23-2981  
**Received Date** : 22/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			SURFACE TREATMENT GROUP
			2309-AS0708
			Eaching Fume C-Line (Outlet)
1	Sampling Date	-	21/09/23
2	Stack Diameter	m	1.45 x 1.45
3	Temperature <sup>(1)</sup>	°C	30
4	Stack Gas Velocity <sup>(1)</sup>	m/s	6.9
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	14.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	14.2
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Analysis Date
			SURFACE TREATMENT GROUP	
			2309-AS0708	
			Eaching Fume C-Line (Outlet)	
NaOH <sup>(2)</sup>	mg/Nm <sup>3</sup>	Filtering, Titrimetric (NIOSH 7401, Issue 2 Aug 1994)	< 0.40	22/09/23

**Remarks** : Eaching Fume C-Line (Outlet) = 47P 0671227 UTM 1560903

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

Cb, Ce, C



Approved by

Mrs. Porntip Pethshee

Laboratory Manager

Cb, Ce, C

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Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			SURFACE TREATMENT GROUP
			2309-AS0710
			Anodize Fume C-Line (Outlet)
1	Sampling Date	-	21/09/23
2	Stack Diameter	m	1.30 x 1.30
3	Temperature <sup>(1)</sup>	°C	30
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	12.8
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	12.4
7	Moisture Content <sup>(1)</sup>	%	1.30
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			SURFACE TREATMENT GROUP		
			2309-AS0710		
			Anodize Fume C-Line (Outlet)		
H <sub>2</sub> SO <sub>4</sub> <sup>(2)</sup>	ppm	Isokinetic/Barium-Thorin Titration Method (US.EPA Method 8, Jan 14, 2019)	< 0.012	25	22/09/23

**Remarks** : Anodize Fume C-Line (Outlet) = 47P 0671230 UTM 1560910

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Porntip Pethshee  
Laboratory Manager  
06/10/23

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## TEST REPORT

**Analysis No.** : R23-2981  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0667
			Top Coat No. 1 (ซ้าย)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	29
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.4
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.3
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0667		
			Top Coat No. 1 (ซ้าย)		
MEK <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.017	-	25-26/09/23
Xylene <sup>(2)</sup>	ppm		< 0.009	200	25-26/09/23

**Remarks** : Top Coat No. 1 (ซ้าย) = 47P 0671135 UTM 1560965

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

06/10/23



Approved by

Mrs. Pomtip Pethshee

Laboratory Manager

06/10/23

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## TEST REPORT

**Analysis No. :** R23-2981  
**Received Date:** 21/09/23  
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For Tostem Thai Co., Ltd./South Factory/EIA  
**Address :** 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact :** Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date :** 06/10/23  
**Analysis Date :** 25-26/09/23  
**Job No. :** S660448/Sep  
**Sampling By :** TET  
**Type of Sample :** Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0668
			Top Coat No. 2 (ทวิ)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	28
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.8
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.2
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0668		
			Top Coat No. 2 (ทวิ)		
MEK <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.017	-	25-26/09/23
Xylene <sup>(2)</sup>	ppm		< 0.009	200	25-26/09/23

**Remarks :** Top Coat No. 2 (ทวิ) = 47P 0671135 UTM 1560966

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard :** Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
06/10/23

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## TEST REPORT

**Analysis No. :** R23-2981  
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For Tostem Thai Co., Ltd./South Factory/EIA  
**Address :** 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact :** Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date :** 06/10/23  
**Analysis Date :** 25-26/09/23  
**Job No. :** S660448/Sep  
**Sampling By :** TET  
**Type of Sample :** Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0669
			Primer Booth No. 1 (ซ้าย)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	30
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.2
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.2
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.1
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0669		
			Primer Booth No. 1 (ซ้าย)		
MEK <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.017	-	25-26/09/23
Xylene <sup>(2)</sup>	ppm		< 0.009	200	25-26/09/23

**Remarks :** Primer Booth No. 1 (ซ้าย) = 47P 0671135 UTM 1560972

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard :** Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
06/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
06/10/23

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## TEST REPORT

**Analysis No. :** R23-2981  
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**Address :** 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact :** Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date :** 06/10/23  
**Analysis Date :** 25-26/09/23  
**Job No. :** S660448/Sep  
**Sampling By :** TET  
**Type of Sample :** Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0670
			Primer Booth No. 2 (พว)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	32
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.1
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.4

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0670		
			Primer Booth No. 2 (พว)		
MEK <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.017	-	25-26/09/23
Xylene <sup>(2)</sup>	ppm		< 0.009	200	25-26/09/23

**Remarks :** Primer Booth No. 2 (พว) = 47P 0671136 UTM 1560973

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard :** Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
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Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
๑๖/๑๐/๒๓

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## TEST REPORT

**Analysis No. :** R23-2981  
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**Address :** 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact :** Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date :** 06/10/23  
**Analysis Date :** 25-26/09/23  
**Job No. :** S660448/Sep  
**Sampling By :** TET  
**Type of Sample :** Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			Paint Line	
			2309-AS0671	2309-AS0672
			Clear Coat No. 1	Clear Coat No. 2
1	Sampling Date	-	20/09/23	20/09/23
2	Stack Diameter	m	0.35 x 0.40	0.35 x 0.40
3	Temperature <sup>(1)</sup>	°C	32	33
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.0	10.7
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.4	1.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.4	1.5
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3	756.4

Parameter	Unit	Method	Result		Standard (Without Combustion)	Analysis Date
			Paint Line			
			2309-AS0671	2309-AS0672		
			Clear Coat No. 1	Clear Coat No. 2		
MEK <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.017	< 0.017	-	25-26/09/23
Xylene <sup>(2)</sup>	ppm		< 0.009	< 0.009	200	25-26/09/23

**Remarks :** Clear Coat No. 1 = 47P 0671145 UTM 1560968  
Clear Coat No. 2 = 47P 0671144 UTM 1560968

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard :** Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๐๖/๑๐/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
๐๖/๑๐/๒๓

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Page 25 of 27

## TEST REPORT

**Analysis No.** : R23-2981  
**Received Date** : 21/09/23  
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Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			Paint Line	
			2309-AS0673	2309-AS0674
			Clear Coat No. 3	Clear Coat No. 4
1	Sampling Date	-	20/09/23	20/09/23
2	Stack Diameter	m	0.35 x 0.40	0.35 x 0.40
3	Temperature <sup>(1)</sup>	°C	33	32
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.2	10.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.4	1.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.4	1.4
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3	756.4

Parameter	Unit	Method	Result		Standard (Without Combustion)	Analysis Date
			Paint Line			
			2309-AS0673	2309-AS0674		
			Clear Coat No. 3	Clear Coat No. 4		
MEK <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.017	< 0.017	-	25-26/09/23
Xylene <sup>(2)</sup>	ppm		1.269	< 0.009	200	25-26/09/23

**Remarks** : Clear Coat No. 3 = 47P 0671142 UTM 1560963  
Clear Coat No. 4 = 47P 0671140 UTM 1560963

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549) and Notification of the Ministry of Natural Resources and Environment (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๑๖/๑๐/๒๓



Approved by

Mrs. Porntip Pethshee  
Laboratory Manager  
๑๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 26-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsas  
**Registration Number** : ๖-236-๖-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0795
			Dust Collector 400 A-Line No. 1 (Outlet)
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 0.80
3	Temperature <sup>(1)</sup>	°C	46
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.2
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	4.6
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	4.2
7	Moisture Content <sup>(1)</sup>	%	1.51
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			CASTING GROUP		
			2309-AS0795		
			Dust Collector 400 A-Line No. 1 (Outlet)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.0	240	26-27/09/23
HCl <sup>(2)</sup>	mg/Nm <sup>3</sup>	Absorption, IC Method (US.EPA Method 26, Oct 07, 2020)	0.02	160	26/09/23

**Remarks** : Dust Collector 400 A-Line No. 1 (Outlet) = 47P 0671230 UTM 1560571  
(1) Flue conditions  
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)  
**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)  
Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๖-236-๖-0002  
๒๖/๙/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
๖-236-๖-0003  
๒๖/๙/๒๓

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Page 2 of 23

## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 26-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๖-236-๖-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0797
			Dust Collector 400 A-Line No. 2 (Outlet)
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 0.75
3	Temperature <sup>(1)</sup>	°C	42
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.5
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	3.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	3.1
7	Moisture Content <sup>(1)</sup>	%	1.85
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			CASTING GROUP		
			2309-AS0797		
			Dust Collector 400 A-Line No. 2 (Outlet)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.8	240	26-27/09/23
HCl <sup>(2)</sup>	mg/Nm <sup>3</sup>	Absorption, IC Method (US.EPA Method 26, Oct 07, 2020)	< 0.01	160	26/09/23

**Remarks** : Dust Collector 400 A-Line No. 2 (Outlet) = 47P 0671238 UTM 1560575  
(1) Flue conditions  
(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)  
**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)  
Source : Natural Gas

Reviewed by

Ms. Warerut Prachumdaeng  
Chief of Laboratory  
๖-236-๖-0002  
๐๖/๑๐/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
๖-236-๖-0003  
๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๖-236-๖-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0799
			Dust Collector 1,500 A-Line No. 3 (Outlet)
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 1.49
3	Temperature <sup>(1)</sup>	°C	48
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	13.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	12.0
7	Moisture Content <sup>(1)</sup>	%	2.36
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			CASTING GROUP		
			2309-AS0799		
			Dust Collector 1,500 A-Line No. 3 (Outlet)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.6	240	26-27/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	3.00	200	22/09/23

**Remarks** : Dust Collector 1,500 A-Line No. 3 (Outlet) = 47P 0671205 UTM 1560568

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

๖-236-๖-0002  
๐๖/๑๐/๒๕



Approved by

Mrs. Porntip Pethshee  
Laboratory Manager

๖-236-๖-0003  
๐๖/๑๐/๒๕

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๓-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0793
			Melting Stack A-Line No. 2
1	Sampling Date	-	22/09/23
2	Stack Diameter	m	Ø 1.12
3	Temperature <sup>(1)</sup>	°C	240
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.5
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	9.4
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	5.2
7	Moisture Content <sup>(1)</sup>	%	3.25
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	8.4
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			CASTING GROUP		
			2309-AS0793		
			Melting Stack A-Line No. 2		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	5.9	240	26-27/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	26.00	200	22/09/23

**Remarks** : Melting Stack A-Line No. 2 = 47P 0671195 UTM 1560635

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๓-236-ท-0002  
๐๖/๑๐/๒๓

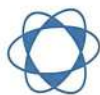


Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
๓-236-ท-0003  
๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 22/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 21-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : จ-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			CASTING GROUP
			2309-AS0706
			Homogenize Stack A-Line No. 1
1	Sampling Date	-	21/09/23
2	Stack Diameter	m	Ø 0.65
3	Temperature <sup>(1)</sup>	°C	152
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.3
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	2.8
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.9
7	Moisture Content <sup>(1)</sup>	%	2.46
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	10.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.4
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			CASTING GROUP		
			2309-AS0706		
			Homogenize Stack A-Line No. 1		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.0	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	20.00	200	21/09/23

**Remarks** : Homogenize Stack A-Line No. 1 = 47P 0671152 UTM 1560616

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

จ-236-ก-0002  
06/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

จ-236-ก-0003  
06/10/23

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## TEST REPORT

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**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 20-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : จ-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0663
			Billet Heating Furnace (BHF) B-Line No. 1
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.35
3	Temperature <sup>(1)</sup>	°C	200
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.0
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.6
7	Moisture Content <sup>(1)</sup>	%	2.61
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	13.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	5.4
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0663		
			Billet Heating Furnace (BHF) B-Line No. 1		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.7	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	14.00	200	20/09/23

**Remarks** : Billet Heating Furnace (BHF) B-Line No. 1 = 47P 0671134 UTM 1560781

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis. (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

จ-236-ก-0002

06/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

จ-236-ก-0003

06/10/23

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 19/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsas  
**Registration Number** : ๖-236-๖-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0596
			Billet Heating Furnace (BHF) C-Line No. 1
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	190
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3
7	Moisture Content <sup>(1)</sup>	%	2.78
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	12.6
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	5.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0596		
			Billet Heating Furnace (BHF) C-Line No. 1		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.3	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	5.66	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 1 = 47P 0671183 UTM 1560749

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๖-236-๖-0002  
๑๖/๑๐/๒๓



Approved by

Mrs. Porntip Pethshee  
Laboratory Manager  
๖-236-๖-0003  
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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 19/09/23  
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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๖-236-๖-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0597
			Billet Heating Furnace (BHF) C-Line No. 2
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	200
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3
7	Moisture Content <sup>(1)</sup>	%	2.70
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	11.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0597		
			Billet Heating Furnace (BHF) C-Line No. 2		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.3	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	5.66	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 2 = 47P 0671202 UTM 1560749

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

๖-236-๖-0002  
06/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

๖-236-๖-0003  
06/10/23

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๓-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0598
			Billet Heating Furnace (BHF) C-Line No. 3
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	130
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.4
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.4
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3
7	Moisture Content <sup>(1)</sup>	%	2.62
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	14.4
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	7.8
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0598		
			Billet Heating Furnace (BHF) C-Line No. 3		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.8	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	7.00	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 3 = 47P 0671219 UTM 1560754

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

๓-236-ท-0002

๐๖/๑๐/๒๓

Approved by

Mrs. Pornpip Pethshee

Laboratory Manager

๓-236-ท-0003

๐๖/๑๐/๒๓



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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 19/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๓-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0599
			Billet Heating Furnace (BHF) C-Line No. 4
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	220
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.4
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.2
7	Moisture Content <sup>(1)</sup>	%	3.08
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	16.4
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	3.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0599		
			Billet Heating Furnace (BHF) C-Line No. 4		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.9	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	7.33	200	18/09/23

**Remarks** : Billet Heating Furnace (BHF) C-Line No. 4 = 47P 0671250 UTM 1560751

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

๓-236-ก-0002

๐๖/๑๐/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

๓-236-ก-0003

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## TEST REPORT

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**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 20-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : จ-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0662
			Aging Stack B-Line
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.56
3	Temperature <sup>(1)</sup>	°C	188
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.0
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	2.0
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	Moisture Content <sup>(1)</sup>	%	2.51
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	16.0
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	3.8
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0662		
			Aging Stack B-Line		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.1	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	15.20	200	20/09/23

**Remarks** : Aging Stack B-Line = 47P 0671154 UTM 1560836

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

จ-236-ก-0002  
06/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

จ-236-ก-0003  
06/10/23

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## TEST REPORT

**Analysis No.** : R23-2981/DIW **Report Date** : 06/10/23  
**Received Date** : 19/09/23 **Analysis Date** : 18-22/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA **Job No.** : S660448/Sep  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120 **Sampling By** : Mr. Weeraphon Budsa  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385 **Registration Number** : ๖-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			EXTRUSION GROUP	
			2309-AS0592	2309-AS0593
			Aging Stack C-Line No. 1	Aging Stack C-Line No. 2
1	Sampling Date	-	18/09/23	18/09/23
2	Stack Diameter	m	Ø 0.27	Ø 0.27
3	Temperature <sup>(1)</sup>	°C	130	125
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.1	5.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.4	0.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.3	0.2
7	Moisture Content <sup>(1)</sup>	%	2.20	2.02
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	17.0	17.0
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	2.4	2.4
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1	756.1

Parameter	Unit	Method	Result		Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP			
			2309-AS0592	2309-AS0593		
			Aging Stack C-Line No. 1	Aging Stack C-Line No. 2		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.4	0.5	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	18.90	14.60	200	18/09/23

**Remarks** : Aging Stack C-Line No. 1 = 47P 0671198 UTM 1560873  
Aging Stack C-Line No. 2 = 47P 0671220 UTM 1560873

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)  
Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

๖-236-ก-0002  
๑๖/๑๐/๒๓

Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

๖-236-ก-0003  
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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 19/09/23  
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Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 18-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๓-236-๓-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0594
			Aging Stack Mini - Line
1	Sampling Date	-	18/09/23
2	Stack Diameter	m	Ø 0.30
3	Temperature <sup>(1)</sup>	°C	146
4	Stack Gas Velocity <sup>(1)</sup>	m/s	8.1
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	0.6
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	0.4
7	Moisture Content <sup>(1)</sup>	%	2.15
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	16.6
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	4.2
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0594		
			Aging Stack Mini - Line		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.7	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	9.90	200	18/09/23

**Remarks** : Aging Stack Mini - Line = 47P 0671084 UTM 1560812

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

๓-236-๓-0002

๐๖/๑๐/๒๓



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager

๓-236-๓-0003

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 19-25/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๓-236-๓-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0664
			AI Die Casting Stack
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	0.50 x 0.45
3	Temperature <sup>(1)</sup>	°C	65
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.3
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.6
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.4
7	Moisture Content <sup>(1)</sup>	%	1.44
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.8
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0664		
			AI Die Casting Stack		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	1.0	240	22-25/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	3.50	200	19/09/23

**Remarks** : AI Die Casting Stack = 47P 0671542 UTM 1560851

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory

๓-236-๓-0002  
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Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager

๓-236-๓-0003  
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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 20/09/23  
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For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 19-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsas  
**Registration Number** : ฏ-236-ฏ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0631
			Zn Die Casting Stack
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	Ø 0.50
3	Temperature <sup>(1)</sup>	°C	42
4	Stack Gas Velocity <sup>(1)</sup>	m/s	6.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	Moisture Content <sup>(1)</sup>	%	1.99
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.1

Parameter	Unit	Method	Result	Standard (With Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0631		
			Zn Die Casting Stack		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	2.2	240	20-22/09/23
NO <sub>x</sub> as NO <sub>2</sub> <sup>(2)</sup>	ppm	Instrument Analyzer Method (US.EPA Method 7E, Oct 07, 2020)	3.00	200	19/09/23

**Remarks** : Zn Die Casting Stack = 47P 0671546 UTM 1560806

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis, (open system)

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Source ; Natural Gas

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
ฏ-236-ฏ-0002  
06/10/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
ฏ-236-ฏ-0003  
06/10/23

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## TEST REPORT

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Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 20-22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๖-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			EXTRUSION GROUP
			2309-AS0630
			Die Polishing Stack (Outlet)
1	Sampling Date	-	19/09/23
2	Stack Diameter	m	Ø 0.75
3	Temperature <sup>(1)</sup>	°C	28
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.2
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	3.2
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	3.1
7	Moisture Content <sup>(1)</sup>	%	1.11
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			EXTRUSION GROUP		
			2309-AS0630		
			Die Polishing Stack (Outlet)		
Particulate <sup>(2)</sup>	mg/Nm <sup>3</sup>	Isokinetic, Gravimetric Method (US.EPA Method 5, Dec 07, 2020)	0.9	300	20-22/09/23

**Remarks** : Die Polishing Stack (Outlet) = 47P 0671098 UTM 1560699

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
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Approved by

Mrs. Porntip Pethshee  
Laboratory Manager  
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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
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**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
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**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 22/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : จ-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			SURFACE TREATMENT GROUP
			2309-AS0710
			Anodize Fume C-Line (Outlet)
1	Sampling Date	-	21/09/23
2	Stack Diameter	m	1.30 x 1.30
3	Temperature <sup>(1)</sup>	°C	30
4	Stack Gas Velocity <sup>(1)</sup>	m/s	7.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	12.8
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	12.4
7	Moisture Content <sup>(1)</sup>	%	1.30
8	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
9	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
10	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.2

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			SURFACE TREATMENT GROUP		
			2309-AS0710		
			Anodize Fume C-Line (Outlet)		
H <sub>2</sub> SO <sub>4</sub> <sup>(2)</sup>	ppm	Isokinetic/Barium-Thorin Titration Method (US.EPA Method 8, Jan 14, 2019)	< 0.012	25	22/09/23

**Remarks** : Anodize Fume C-Line (Outlet) = 47P 0671230 UTM 1560910

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
จ-236-ก-0002  
๐๖/๑๐/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
จ-236-ก-0003  
๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsas  
**Registration Number** : ๓-236-๓-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0667
			Top Coat No. 1 (ซ้าย)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	29
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.4
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.3
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0667		
			Top Coat No. 1 (ซ้าย)		
Xylene <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.009	200	25-26/09/23

**Remarks** : Top Coat No. 1 (ซ้าย) = 47P 0671135 UTM 1560965

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

๓-236-๓-0002

๐๖/๑๐/๒๓



Approved by

Mrs. Pomtip Pethshee

Laboratory Manager

๓-236-๓-0003

๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๓-236-๓-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0668
			Top Coat No. 2 (๗๓)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	28
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.8
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.2
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0668		
			Top Coat No. 2 (๗๓)		
Xylene <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.009	200	25-26/09/23

**Remarks** : Top Coat No. 2 (๗๓) = 47P 0671135 UTM 1560966

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๓-236-๓-0002  
๒๖/๙/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
๓-236-๓-0003  
๒๖/๙/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : จ-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0669
			Primer Booth No. 1 (ซ้าย)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	30
4	Stack Gas Velocity <sup>(1)</sup>	m/s	9.2
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.2
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.1
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0669		
			Primer Booth No. 1 (ซ้าย)		
Xylene <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.009	200	25-26/09/23

**Remarks** : Primer Booth No. 1 (ซ้าย) = 47P 0671135 UTM 1560972

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
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Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
จ-236-ท-0003  
๐๖/๑๐/๒๓

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1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

E-mail : admin@tet1995.com  
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Page 21 of 23

## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : จ-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result
			Paint Line
			2309-AS0670
			Primer Booth No. 2 (๗๖)
1	Sampling Date	-	20/09/23
2	Stack Diameter	m	Ø 0.40
3	Temperature <sup>(1)</sup>	°C	32
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.1
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.3
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.2
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.4

Parameter	Unit	Method	Result	Standard (Without Combustion)	Analysis Date
			Paint Line		
			2309-AS0670		
			Primer Booth No. 2 (๗๖)		
Xylene <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.009	200	25-26/09/23

**Remarks** : Primer Booth No. 2 (๗๖) = 47P 0671136 UTM 1560973

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
จ-236-ก-0002  
๐๖/๑๐/๒๓



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
จ-236-ก-0003  
๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ๖-236-๖-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			Paint Line	
			2309-AS0671	2309-AS0672
			Clear Coat No. 1	Clear Coat No. 2
1	Sampling Date	-	20/09/23	20/09/23
2	Stack Diameter	m	0.35 x 0.40	0.35 x 0.40
3	Temperature <sup>(1)</sup>	°C	32	33
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.0	10.7
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.4	1.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.4	1.5
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3	756.4

Parameter	Unit	Method	Result		Standard (Without Combustion)	Analysis Date
			Paint Line			
			2309-AS0671	2309-AS0672		
			Clear Coat No. 1	Clear Coat No. 2		
Xylene <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	< 0.009	< 0.009	200	25-26/09/23

**Remarks** : Clear Coat No. 1 = 47P 0671145 UTM 1560968  
Clear Coat No. 2 = 47P 0671144 UTM 1560968

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

๖-236-๖-0002

๐๖/๑๐/๒๓



Approved by

Mrs. Pornpip Pethshee

Laboratory Manager

๖-236-๖-0003

๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981/DIW  
**Received Date** : 21/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 25-26/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : Mr. Weeraphon Budsa  
**Registration Number** : ว-236-จ-0029  
**Type of Sample** : Stack

### Sampling Conditions :

Item	Description	Unit	Result	
			Paint Line	
			2309-AS0673	2309-AS0674
			Clear Coat No. 3	Clear Coat No. 4
1	Sampling Date	-	20/09/23	20/09/23
2	Stack Diameter	m	0.35 x 0.40	0.35 x 0.40
3	Temperature <sup>(1)</sup>	°C	33	32
4	Stack Gas Velocity <sup>(1)</sup>	m/s	10.2	10.6
5	Flow Rate <sup>(1)</sup>	m <sup>3</sup> /s	1.4	1.5
6	Flow Rate <sup>(2)</sup>	Nm <sup>3</sup> /s	1.4	1.4
7	O <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	20.9	20.9
8	CO <sub>2</sub> Rate <sup>(1)</sup> , dry basis	%	< 1.0	< 1.0
9	Absolute Stack Pressure <sup>(1)</sup>	mm.Hg	756.3	756.4

Parameter	Unit	Method	Result		Standard (Without Combustion)	Analysis Date
			Paint Line			
			2309-AS0673	2309-AS0674		
			Clear Coat No. 3	Clear Coat No. 4		
Xylene <sup>(2)</sup>	ppm	Solid Sorbent Tube, GC/FID (US.EPA Mt.18, Jan 14, 2019)	1.269	< 0.009	200	25-26/09/23

**Remarks** : Clear Coat No. 3 = 47P 0671142 UTM 1560963  
Clear Coat No. 4 = 47P 0671140 UTM 1560963

(1) Flue conditions

(2) The concentrations of air emissions and emission rate are based on the reference condition of 25 °C at 1 atm or 760 mm.Hg and dry basis

**Standard** : Notification of the Ministry of Industry (2006) (B.E. 2549)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
ว-236-ก-0002  
06/10/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
ว-236-ก-0003  
06/10/23

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## TEST REPORT

**Analysis No.** : R23-2981  
**Received Date** : 19-25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang, Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 06/10/23  
**Analysis Date** : 19-27/09/23  
**Job No.** : S660448/Sep  
**Sampling By** : TET  
**Type of Sample** : Ambient Air

Sampling Point	Sample No.	Sampling Date	Result		Analysis Date
			TSP (mg/m <sup>3</sup> )	PM-10 (mg/m <sup>3</sup> )	
วัดโพธิ์นิมิตต์คาราม (47P 0670773 UTM 1560877)	2309-AA0600	17-18/09/23	0.049	0.015	19-21/09/23
	2309-AA0632	18-19/09/23	0.043	0.016	20-22/09/23
	2309-AA0675	19-20/09/23	0.062	0.027	21-25/09/23
	2309-AA0712	20-21/09/23	0.047	0.018	22-26/09/23
	2309-AA0800	21-22/09/23	0.030	0.011	25-27/09/23
	2309-AA0804	22-23/09/23	0.052	0.018	25-27/09/23
	2309-AA0808	23-24/09/23	0.072	0.030	25-27/09/23
โรงเรียนวัดพิชณมิตร (47P 0671157 UTM 1562549)	2309-AA0601	17-18/09/23	0.036	0.026	19-21/09/23
	2309-AA0633	18-19/09/23	0.054	0.028	20-22/09/23
	2309-AA0676	19-20/09/23	0.144	0.055	21-25/09/23
	2309-AA0713	20-21/09/23	0.084	0.033	22-26/09/23
	2309-AA0801	21-22/09/23	0.046	0.023	25-27/09/23
	2309-AA0805	22-23/09/23	0.100	0.042	25-27/09/23
	2309-AA0809	23-24/09/23	0.079	0.042	25-27/09/23
Standard			0.33	0.12	

**Method** : TSP = Gravimetric Method (US.EPA 40 CFR Part 50 Appendix B)  
PM-10 = Gravimetric Method (US.EPA 40 CFR Part 50 Appendix J)  
**Standard** : Notification of the National Environment Board No. 10 (1995) (B.E. 2538) and No. 24 (2004) (B.E. 2547), 24-hr. average value

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
๐๖/๑๐/๒๓



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
๐๖/๑๐/๒๓

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## TEST REPORT

**Analysis No.** : R23-2981

**Report Date** : 06/10/23

**Received Date** : 19-25/09/23

**Analysis Date** : 19-27/09/23

**Customer** : Technical Division of Thai Environmental Technic Limited

**Job No.** : S660448/Sep

For Tostem Thai Co., Ltd./South Factory/EIA

**Sampling By** : TET

**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang, Pathumthani 12120

**Type of Sample** : Ambient Air

**Contact** : Tel. (02) 529 0474 # 1965

Fax. (02) 529 4385

Sampling Point	Sample No.	Sampling Date	Result		Analysis Date
			TSP (mg/m <sup>3</sup> )	PM-10 (mg/m <sup>3</sup> )	
วัดโกเมศรัตนาราม (47P 0669803 UTM 1560300)	2309-AA0602	17-18/09/23	0.040	0.021	19-21/09/23
	2309-AA0634	18-19/09/23	0.044	0.021	20-22/09/23
	2309-AA0677	19-20/09/23	0.059	0.018	21-25/09/23
	2309-AA0714	20-21/09/23	0.061	0.032	22-26/09/23
	2309-AA0802	21-22/09/23	0.031	0.015	25-27/09/23
	2309-AA0806	22-23/09/23	0.042	0.021	25-27/09/23
	2309-AA0810	23-24/09/23	0.072	0.008	25-27/09/23
Standard			0.33	0.12	

**Method** : TSP = Gravimetric Method (US.EPA 40 CFR Part 50 Appendix B)

PM-10 = Gravimetric Method (US.EPA 40 CFR Part 50 Appendix J)

**Standard** : Notification of the National Environment Board No. 10 (1995) (B.E. 2538) and No. 24 (2004) (B.E. 2547), 24-hr. average value

Reviewed by

Ms. Wareerut Prachumdaeng

Chief of Laboratory

06/10/23



Approved by

Mrs. Porntip Pethshee

Laboratory Manager

06/10/23

..... END OF REPORT .....

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/1-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Ambient Air

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result						
		วัดโพธิ์นิมิตตาราม						
		NO <sub>2</sub> (ppm)						
		17-18/09/23	18-19/09/23	19-20/09/23	20-21/09/23	21-22/09/23	22-23/09/23	23-24/09/23
1.	15:00-16:00	0.0026	0.0011	0.0018	0.0016	0.0037	0.0028	0.0010
2.	16:00-17:00	0.0032	0.0009	0.0011	0.0017	0.0020	0.0030	0.0013
3.	17:00-18:00	0.0016	0.0012	0.0024	0.0031	0.0016	0.0022	0.0014
4.	18:00-19:00	0.0027	0.0015	0.0012	0.0019	0.0016	0.0013	0.0015
5.	19:00-20:00	0.0018	0.0021	0.0018	0.0012	0.0022	0.0019	0.0025
6.	20:00-21:00	0.0015	0.0029	0.0016	0.0016	0.0019	0.0018	0.0028
7.	21:00-22:00	0.0014	0.0018	0.0014	0.0023	0.0016	0.0018	0.0022
8.	22:00-23:00	0.0013	0.0019	0.0022	0.0032	0.0011	0.0015	0.0019
9.	23:00-00:00	0.0013	0.0017	0.0017	0.0021	0.0016	0.0014	0.0016
10.	00:00-01:00	0.0011	0.0009	0.0018	0.0041	0.0021	0.0015	0.0016
11.	01:00-02:00	0.0012	0.0019	0.0026	0.0016	0.0027	0.0015	0.0028
12.	02:00-03:00	0.0013	0.0018	0.0020	0.0021	0.0020	0.0010	0.0015
13.	03:00-04:00	0.0017	0.0020	0.0028	0.0013	0.0019	0.0012	0.0015
14.	04:00-05:00	0.0017	0.0013	0.0028	0.0016	0.0033	0.0020	0.0014
15.	05:00-06:00	0.0018	0.0015	0.0019	0.0014	0.0016	0.0015	0.0012
16.	06:00-07:00	0.0016	0.0021	0.0015	0.0020	0.0011	0.0022	0.0013
17.	07:00-08:00	0.0016	0.0022	0.0011	0.0026	0.0012	0.0027	0.0018
18.	08:00-09:00	0.0022	0.0010	0.0013	0.0018	0.0018	0.0017	0.0037
19.	09:00-10:00	0.0020	0.0018	0.0009	0.0020	0.0014	0.0016	0.0025
20.	10:00-11:00	0.0017	0.0011	0.0015	0.0013	0.0015	0.0016	0.0015
21.	11:00-12:00	0.0018	0.0010	0.0013	0.0014	0.0024	0.0025	0.0016
22.	12:00-13:00	0.0032	0.0021	0.0019	0.0022	0.0018	0.0017	0.0017
23.	13:00-14:00	0.0021	0.0017	0.0017	0.0027	0.0027	0.0017	0.0021
24.	14:00-15:00	0.0025	0.0012	0.0017	0.0017	0.0028	0.0015	0.0029
Minimum		0.0011	0.0009	0.0009	0.0012	0.0011	0.0010	0.0010
Maximum		0.0032	0.0029	0.0028	0.0041	0.0037	0.0030	0.0037
Average		0.0019	0.0016	0.0018	0.0020	0.0020	0.0018	0.0019
Standard <sup>(1)</sup>		0.17						

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 33 (2009) (B.E. 2552)

*Wannasiri S.*  
Wannasiri Suriyawong



*Somchai P.*  
Somchai Piyavorasakul  
General Manager

- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL





## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/2-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Ambient Air

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result						
		โรงเรียนวัดพิชนิมิตร						
		NO <sub>2</sub> (ppm)						
		17-18/09/23	18-19/09/23	19-20/09/23	20-21/09/23	21-22/09/23	22-23/09/23	23-24/09/23
1.	13:00-14:00	0.0018	0.0016	0.0019	0.0018	0.0022	0.0020	0.0031
2.	14:00-15:00	0.0019	0.0011	0.0029	0.0031	0.0035	0.0030	0.0015
3.	15:00-16:00	0.0033	0.0023	0.0034	0.0027	0.0026	0.0023	0.0022
4.	16:00-17:00	0.0026	0.0028	0.0031	0.0021	0.0022	0.0016	0.0023
5.	17:00-18:00	0.0028	0.0018	0.0021	0.0020	0.0023	0.0015	0.0016
6.	18:00-19:00	0.0029	0.0016	0.0020	0.0018	0.0022	0.0009	0.0023
7.	19:00-20:00	0.0028	0.0024	0.0019	0.0019	0.0026	0.0009	0.0023
8.	20:00-21:00	0.0022	0.0021	0.0017	0.0020	0.0028	0.0014	0.0021
9.	21:00-22:00	0.0015	0.0021	0.0014	0.0026	0.0023	0.0014	0.0023
10.	22:00-23:00	0.0014	0.0016	0.0012	0.0025	0.0021	0.0016	0.0017
11.	23:00-00:00	0.0016	0.0015	0.0011	0.0020	0.0016	0.0015	0.0023
12.	00:00-01:00	0.0026	0.0015	0.0014	0.0027	0.0017	0.0034	0.0011
13.	01:00-02:00	0.0027	0.0020	0.0018	0.0013	0.0018	0.0024	0.0030
14.	02:00-03:00	0.0021	0.0018	0.0018	0.0015	0.0021	0.0014	0.0030
15.	03:00-04:00	0.0021	0.0017	0.0011	0.0011	0.0014	0.0014	0.0030
16.	04:00-05:00	0.0022	0.0024	0.0013	0.0018	0.0018	0.0014	0.0024
17.	05:00-06:00	0.0032	0.0020	0.0017	0.0023	0.0012	0.0013	0.0027
18.	06:00-07:00	0.0012	0.0023	0.0015	0.0023	0.0021	0.0012	0.0036
19.	07:00-08:00	0.0028	0.0016	0.0013	0.0015	0.0021	0.0016	0.0027
20.	08:00-09:00	0.0024	0.0018	0.0013	0.0027	0.0015	0.0014	0.0026
21.	09:00-10:00	0.0023	0.0019	0.0024	0.0022	0.0010	0.0020	0.0020
22.	10:00-11:00	0.0022	0.0017	0.0032	0.0018	0.0016	0.0025	0.0025
23.	11:00-12:00	0.0017	0.0016	0.0011	0.0018	0.0018	0.0028	0.0034
24.	12:00-13:00	0.0012	0.0024	0.0013	0.0019	0.0013	0.0025	0.0030
Minimum		0.0012	0.0011	0.0011	0.0011	0.0010	0.0009	0.0011
Maximum		0.0033	0.0028	0.0034	0.0031	0.0035	0.0034	0.0036
Average		0.0022	0.0019	0.0018	0.0021	0.0020	0.0018	0.0024
Standard <sup>(1)</sup>		0.17						

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 33 (2009) (B.E. 2552)

*Wannasiri S.*

Wannasiri Suriyawong



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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Thai Environmental Technic Limited  
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

ORIGINAL  
ต้นฉบับ

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1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

Tel : 0-2373-7799 (Auto) Fax : 0-2373-7979

## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/3-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Ambient Air

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result						
		วัดโกเมศรัตนาราม						
		NO <sub>2</sub> (ppm)						
		17-18/09/23	18-19/09/23	19-20/09/23	20-21/09/23	21-22/09/23	22-23/09/23	23-24/09/23
1.	14:00-15:00	0.0012	0.0013	0.0010	0.0004	0.0014	0.0011	0.0017
2.	15:00-16:00	0.0007	0.0021	0.0008	0.0008	0.0011	0.0010	0.0020
3.	16:00-17:00	0.0006	0.0010	0.0006	0.0015	0.0008	0.0010	0.0014
4.	17:00-18:00	0.0005	0.0011	0.0014	0.0024	0.0009	0.0007	0.0011
5.	18:00-19:00	0.0005	0.0009	0.0009	0.0013	0.0008	0.0006	0.0008
6.	19:00-20:00	0.0003	0.0029	0.0010	0.0033	0.0013	0.0007	0.0008
7.	20:00-21:00	0.0004	0.0017	0.0018	0.0008	0.0019	0.0007	0.0007
8.	21:00-22:00	0.0005	0.0020	0.0012	0.0013	0.0012	0.0018	0.0008
9.	22:00-23:00	0.0010	0.0012	0.0020	0.0005	0.0011	0.0024	0.0009
10.	23:00-00:00	0.0009	0.0005	0.0020	0.0008	0.0025	0.0012	0.0013
11.	00:00-01:00	0.0010	0.0007	0.0011	0.0006	0.0008	0.0007	0.0004
12.	01:00-02:00	0.0008	0.0013	0.0007	0.0012	0.0008	0.0008	0.0005
13.	02:00-03:00	0.0008	0.0014	0.0008	0.0018	0.0004	0.0019	0.0010
14.	03:00-04:00	0.0014	0.0003	0.0005	0.0010	0.0010	0.0009	0.0009
15.	04:00-05:00	0.0012	0.0009	0.0009	0.0012	0.0006	0.0008	0.0011
16.	05:00-06:00	0.0009	0.0003	0.0007	0.0005	0.0007	0.0002	0.0010
17.	06:00-07:00	0.0010	0.0006	0.0005	0.0006	0.0016	0.0004	0.0007
18.	07:00-08:00	0.0024	0.0013	0.0011	0.0014	0.0010	0.0009	0.0007
19.	08:00-09:00	0.0013	0.0009	0.0009	0.0019	0.0019	0.0009	0.0006
20.	09:00-10:00	0.0017	0.0004	0.0009	0.0009	0.0020	0.0007	0.0021
21.	10:00-11:00	0.0005	0.0010	0.0008	0.0029	0.0020	0.0010	0.0008
22.	11:00-12:00	0.0007	0.0006	0.0009	0.0012	0.0022	0.0005	0.0017
23.	12:00-13:00	0.0004	0.0016	0.0023	0.0008	0.0014	0.0006	0.0014
24.	13:00-14:00	0.0007	0.0004	0.0011	0.0008	0.0005	0.0007	0.0019
Minimum		0.0003	0.0003	0.0005	0.0004	0.0004	0.0002	0.0004
Maximum		0.0024	0.0029	0.0023	0.0033	0.0025	0.0024	0.0021
Average		0.0009	0.0011	0.0011	0.0012	0.0012	0.0009	0.0011
Standard <sup>(1)</sup>		0.17						

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 33 (2009) (B.E. 2552)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Sep

Report No. : 2981/2023/4-11  
Report Date : October 3, 2023  
Sampling Date : September 17-24 2023  
Type of Sample: Sound Level

Item	Time	Result (dB (A))								
		ริมรั้วด้านทิศใต้								
		17-18/09/23			18-19/09/23			19-20/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	59.7	80.1	48.8	57.3	77.6	49.5	59.3	79.6	50.4
2.	11.00-12.00	57.9	77.4	50.1	54.5	77.2	49.2	57.2	78.7	49.2
3.	12.00-13.00	58.3	77.5	48.7	52.9	70.6	48.8	55.6	77.4	47.7
4.	13.00-14.00	54.8	75.5	49.1	56.4	79.5	49.3	59.3	78.3	47.5
5.	14.00-15.00	55.5	80.3	49.9	55.7	79.6	49.6	58.6	76.5	49.1
6.	15.00-16.00	56.0	78.6	48.3	57.0	74.2	52.1	57.6	77.0	51.5
7.	16.00-17.00	62.0	92.3	52.0	60.8	80.9	50.6	59.0	79.1	51.2
8.	17.00-18.00	60.1	79.8	50.4	60.9	79.4	50.3	57.1	82.3	50.2
9.	18.00-19.00	55.8	78.0	49.9	57.1	79.4	50.1	56.7	70.3	51.2
10.	19.00-20.00	56.0	76.1	49.8	55.0	82.4	49.4	60.8	79.7	51.4
11.	20.00-21.00	50.7	72.5	46.1	53.3	67.8	50.9	59.2	76.8	51.5
12.	21.00-22.00	50.3	67.5	45.9	51.0	73.2	48.2	53.6	70.6	49.3
13.	22.00-23.00	50.9	77.9	46.7	53.8	76.3	46.2	52.5	74.7	47.4
14.	23.00-00.00	51.1	71.8	46.6	52.1	71.9	46.0	52.4	75.0	47.9
15.	00.00-01.00	51.1	74.3	46.4	52.2	74.8	48.7	52.4	75.0	47.7
16.	01.00-02.00	48.6	70.6	46.3	56.1	84.2	48.8	48.0	67.4	46.7
17.	02.00-03.00	58.1	75.5	46.2	51.1	77.2	46.9	52.8	77.5	47.3
18.	03.00-04.00	55.9	76.7	45.9	52.3	75.3	47.0	53.9	76.1	47.0
19.	04.00-05.00	46.9	62.2	45.3	54.4	75.1	46.9	49.9	74.0	46.5
20.	05.00-06.00	45.6	61.9	44.5	52.7	72.5	46.9	48.2	62.5	46.8
21.	06.00-07.00	46.6	65.3	44.6	62.3	93.1	52.7	51.5	67.6	47.3
22.	07.00-08.00	50.1	70.3	46.9	57.9	75.9	50.0	51.5	68.7	47.5
23.	08.00-09.00	49.1	69.3	46.6	61.0	76.7	50.9	53.5	74.1	47.5
24.	09.00-10.00	53.7	72.0	49.0	61.9	85.3	51.3	58.7	79.4	49.9
Leq 24 hr		55.7	-	-	57.3	-	-	56.4	-	-
Lmax		-	92.3	-	-	93.1	-	-	82.3	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-
Ldn		59.9	-	-	62.6	-	-	59.7	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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E-mail : admin@tet1995.com  
Tel : 0-2373-7799 (Auto) Fax : 0-2373-7979

## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Sep

Report No. : 2981/2023/5-11  
Report Date : October 3, 2023  
Sampling Date : September 17-24 2023  
Type of Sample: Sound Level

Item	Time	Result (dB (A))											
		ริมรั้วด้านทิศใต้											
		20-21/09/23			21-22/09/23			22-23/09/23			23-24/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	59.3	80.8	50.2	58.7	77.1	49.1	58.6	77.5	50.3	53.1	75.4	47.3
2.	11.00-12.00	61.0	75.8	51.0	52.2	69.5	48.2	57.8	80.1	50.5	52.7	70.2	47.7
3.	12.00-13.00	58.7	85.9	50.2	52.1	68.6	45.9	57.1	76.2	49.2	53.0	75.1	46.1
4.	13.00-14.00	60.1	82.3	50.9	49.8	69.2	45.5	57.6	76.3	49.7	53.1	74.7	47.1
5.	14.00-15.00	57.8	76.2	50.6	50.6	72.1	46.0	57.2	82.0	46.2	53.3	78.8	48.6
6.	15.00-16.00	52.2	71.3	45.6	56.3	79.3	46.1	50.3	73.8	45.0	59.3	79.2	51.4
7.	16.00-17.00	46.8	61.9	45.1	57.0	73.9	46.1	54.1	72.9	45.7	59.3	82.4	50.1
8.	17.00-18.00	56.6	74.5	45.9	53.8	78.1	46.7	60.9	89.0	49.8	60.0	76.8	50.5
9.	18.00-19.00	59.1	76.6	50.3	49.9	71.9	45.0	60.0	80.4	49.4	58.0	86.4	49.7
10.	19.00-20.00	54.8	72.6	44.9	46.0	65.9	44.5	57.4	84.4	49.1	58.7	79.6	51.7
11.	20.00-21.00	58.0	76.4	46.2	49.4	69.1	47.4	58.7	84.1	51.0	58.7	79.7	50.8
12.	21.00-22.00	56.9	76.2	45.9	50.6	76.2	47.3	56.8	76.0	48.6	50.8	69.6	46.0
13.	22.00-23.00	55.8	79.5	45.7	48.5	65.2	46.0	51.0	73.2	48.1	46.6	55.5	45.5
14.	23.00-00.00	60.4	78.1	45.9	47.7	62.2	46.2	50.5	73.2	47.4	50.4	75.5	46.1
15.	00.00-01.00	47.7	68.6	45.6	49.9	72.5	46.7	51.0	72.7	46.0	50.5	75.5	46.2
16.	01.00-02.00	48.9	68.6	45.1	48.7	64.6	46.7	52.1	69.9	45.5	51.7	73.7	45.9
17.	02.00-03.00	50.7	67.0	45.1	51.8	76.3	47.1	53.5	73.2	46.3	47.4	67.2	45.3
18.	03.00-04.00	49.5	68.9	46.0	52.1	75.8	46.7	52.3	74.5	46.8	47.4	64.2	45.2
19.	04.00-05.00	50.8	73.2	47.5	48.5	65.6	46.4	50.3	71.1	45.9	47.4	66.2	45.3
20.	05.00-06.00	52.5	79.3	48.0	48.3	66.2	46.4	48.8	71.2	46.0	49.7	73.8	46.3
21.	06.00-07.00	50.9	73.1	47.5	52.6	66.7	48.2	49.1	64.4	46.3	51.7	75.7	46.2
22.	07.00-08.00	60.8	79.2	51.3	63.3	79.1	48.2	52.8	69.4	46.4	50.3	71.6	46.0
23.	08.00-09.00	61.0	76.0	50.4	57.7	75.9	50.4	55.1	72.6	47.1	49.0	69.3	46.0
24.	09.00-10.00	57.6	76.9	48.2	60.4	79.2	52.7	57.8	80.8	47.1	56.4	84.7	46.1
Leq 24 hr		57.2	-	-	55.0	-	-	56.0	-	-	54.9	-	-
Lmax		-	85.9	-	-	79.3	-	-	89.0	-	-	86.4	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-	70	115	-
Ldn		61.4	-	-	58.2	-	-	59.3	-	-	57.9	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Sep

Report No. : 2981/2023/6-11  
Report Date : October 3, 2023  
Sampling Date : September 17-24 2023  
Type of Sample: Sound Level

Item	Time	Result (dB (A))								
		ริมรั้วด้านทิศตะวันตก								
		17-18/09/23			18-19/09/23			19-20/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	68.2	87.1	66.5	67.5	90.3	64.6	65.1	76.0	63.1
2.	11.00-12.00	67.6	87.2	65.9	67.2	76.0	64.3	65.7	77.8	63.9
3.	12.00-13.00	67.9	88.1	66.0	65.5	78.3	63.1	69.1	87.4	65.9
4.	13.00-14.00	66.9	84.7	64.4	68.4	96.9	64.8	68.6	87.4	65.9
5.	14.00-15.00	68.0	85.6	65.9	67.2	81.1	65.0	68.4	87.3	66.2
6.	15.00-16.00	68.0	87.6	66.1	66.5	81.1	63.3	68.1	83.6	65.8
7.	16.00-17.00	60.0	88.7	65.6	64.6	79.4	62.3	68.8	86.4	66.2
8.	17.00-18.00	66.6	83.0	64.7	68.7	89.7	65.3	67.0	78.5	64.7
9.	18.00-19.00	66.6	91.1	63.3	68.4	89.3	65.0	67.4	84.2	65.1
10.	19.00-20.00	64.6	78.0	60.7	68.6	90.9	64.5	67.8	76.3	65.4
11.	20.00-21.00	63.8	79.4	59.5	66.4	76.7	63.4	60.6	74.6	55.9
12.	21.00-22.00	63.5	79.6	59.3	63.9	81.3	61.7	61.8	80.9	59.1
13.	22.00-23.00	63.1	79.4	59.8	66.5	77.9	64.4	64.4	86.1	60.5
14.	23.00-00.00	65.6	89.3	60.1	64.8	75.8	60.3	63.9	86.5	60.2
15.	00.00-01.00	62.4	80.6	59.8	61.2	75.5	58.5	64.0	76.7	61.8
16.	01.00-02.00	62.1	76.9	58.6	61.8	74.9	59.5	65.0	82.1	62.7
17.	02.00-03.00	61.1	83.1	57.3	63.1	80.2	59.0	65.4	76.3	63.6
18.	03.00-04.00	66.0	91.1	58.7	63.2	85.5	59.4	68.8	75.1	65.7
19.	04.00-05.00	68.4	100.4	62.0	62.3	76.5	59.0	68.5	95.8	61.7
20.	05.00-06.00	65.7	79.5	63.6	60.0	74.4	58.3	63.2	87.8	60.1
21.	06.00-07.00	67.5	74.9	65.3	60.2	74.0	58.8	63.4	81.3	60.0
22.	07.00-08.00	67.0	74.7	64.9	60.4	73.0	57.6	68.4	92.4	63.5
23.	08.00-09.00	67.1	82.0	64.5	58.8	75.9	56.1	67.3	97.4	62.9
24.	09.00-10.00	68.5	86.4	65.7	68.9	86.5	65.5	68.3	92.1	63.5
Leq 24 hr		66.3	-	-	65.7	-	-	66.8	-	-
Lmax		-	100.4	-	-	96.9	-	-	97.4	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-
Ldn		72.0	-	-	70.2	-	-	72.4	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)  
<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL





1/6 Soi Ramkhamhaeng 145, Khwaeng / Khet Saphansung, Bangkok 10240  
1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

E-mail : admin@tet1995.com  
Tel : 0-2373-7799 (Auto) Fax : 0-2373-7979

## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Sep

Report No. : 2981/2023/7-11  
Report Date : October 3, 2023  
Sampling Date : September 17-24 2023  
Type of Sample: Sound Level

Item	Time	Result (dB (A))											
		ริมรั้วด้านทิศตะวันตก											
		20-21/09/23			21-22/09/23			22-23/09/23			23-24/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	64.9	88.3	60.6	63.4	86.9	59.3	68.1	95.3	61.6	69.4	95.3	61.1
2.	11.00-12.00	64.6	88.6	60.2	62.7	82.9	59.4	68.3	94.6	61.3	67.3	89.6	61.1
3.	12.00-13.00	68.3	88.2	63.5	65.6	89.5	59.6	64.4	85.0	60.3	66.6	90.1	60.8
4.	13.00-14.00	65.2	92.4	59.7	65.4	93.4	57.9	64.5	92.2	60.1	65.3	88.9	60.4
5.	14.00-15.00	68.7	94.1	62.6	63.6	89.6	56.4	68.0	98.1	58.1	63.2	78.9	60.7
6.	15.00-16.00	64.8	86.2	60.1	57.7	72.0	55.9	68.4	97.1	56.7	69.2	98.6	60.7
7.	16.00-17.00	66.5	85.7	63.6	63.7	89.9	53.5	66.2	92.6	56.5	69.0	90.7	61.0
8.	17.00-18.00	68.7	84.6	65.2	67.4	93.7	53.8	66.8	99.1	58.6	63.8	89.0	59.8
9.	18.00-19.00	62.0	79.6	58.7	67.6	96.3	50.2	69.2	96.2	58.6	60.6	71.9	59.3
10.	19.00-20.00	65.7	81.8	62.8	64.1	92.6	60.2	68.3	96.0	59.0	61.3	86.0	59.1
11.	20.00-21.00	66.0	84.8	64.2	62.8	84.0	57.9	61.0	87.2	58.2	60.7	72.8	59.2
12.	21.00-22.00	64.1	81.1	61.2	65.1	90.3	58.5	59.6	78.6	58.3	63.6	85.8	59.5
13.	22.00-23.00	61.6	80.8	57.2	65.8	87.2	58.1	59.1	69.0	58.4	63.8	91.4	59.6
14.	23.00-00.00	60.5	78.9	55.9	59.7	84.6	56.8	59.3	69.2	58.4	60.7	81.3	59.2
15.	00.00-01.00	63.1	79.2	60.5	60.0	86.5	56.5	59.3	72.4	58.3	61.5	83.9	59.3
16.	01.00-02.00	55.0	70.5	50.8	61.3	83.7	57.2	61.8	90.3	58.5	60.8	74.9	59.0
17.	02.00-03.00	59.9	83.5	51.1	59.8	81.2	56.0	61.8	78.8	59.6	63.0	82.9	59.2
18.	03.00-04.00	66.3	96.6	52.2	59.0	72.9	57.4	62.8	76.3	59.8	64.4	87.6	58.9
19.	04.00-05.00	60.5	84.0	53.1	59.9	72.0	57.4	64.7	86.1	59.4	65.5	84.0	64.0
20.	05.00-06.00	59.7	75.4	57.5	64.4	94.4	57.8	67.9	90.3	59.8	65.7	90.2	63.9
21.	06.00-07.00	63.3	87.1	57.3	63.3	86.7	58.2	69.4	94.8	61.1	66.4	91.6	63.7
22.	07.00-08.00	68.6	91.7	58.4	67.7	95.3	58.2	67.3	91.3	60.4	67.5	95.2	62.6
23.	08.00-09.00	67.2	95.0	58.2	59.6	76.7	58.2	69.2	96.2	60.8	68.1	92.6	60.9
24.	09.00-10.00	68.6	92.2	60.0	66.4	88.0	61.4	68.2	89.8	60.5	65.9	92.8	59.8
Leq 24 hr		65.5	-	-	64.1	-	-	66.4	-	-	65.6	-	-
Lmax		-	96.6	-	-	96.3	-	-	99.1	-	-	98.6	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-	70	115	-
Ldn		69.5	-	-	69.1	-	-	69.1	-	-	70.8	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/8-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result (dB (A))								
		ริมรั้วด้านทิศเหนือ								
		17-18/09/23			18-19/09/23			19-20/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	66.8	94.7	60.2	65.4	96.7	53.3	66.3	93.5	59.8
2.	11.00-12.00	67.1	91.0	60.6	63.1	90.6	59.1	68.5	91.0	59.7
3.	12.00-13.00	67.2	93.7	58.5	61.4	84.1	58.7	66.5	92.8	59.5
4.	13.00-14.00	65.2	92.5	58.2	61.9	84.2	58.3	62.6	83.2	58.5
5.	14.00-15.00	58.7	70.9	56.7	66.0	92.0	58.7	62.7	90.4	58.3
6.	15.00-16.00	63.0	88.4	56.8	65.5	90.6	58.7	68.6	96.5	57.3
7.	16.00-17.00	65.5	89.3	59.0	67.0	94.8	58.8	69.3	95.0	56.8
8.	17.00-18.00	69.2	101.5	58.3	62.8	80.4	58.8	66.2	96.3	56.3
9.	18.00-19.00	68.0	95.2	54.5	61.1	82.5	58.8	66.6	95.3	54.9
10.	19.00-20.00	64.7	89.5	54.6	62.3	90.8	58.4	64.4	90.8	54.7
11.	20.00-21.00	60.4	85.8	54.5	61.0	82.2	56.1	65.0	97.3	56.8
12.	21.00-22.00	60.6	83.2	53.7	63.3	88.5	56.7	67.4	94.4	56.8
13.	22.00-23.00	57.7	76.0	51.3	64.0	85.4	56.3	66.5	94.2	57.2
14.	23.00-00.00	58.1	86.1	51.9	57.9	82.8	55.0	59.2	85.4	56.4
15.	00.00-01.00	63.7	84.8	51.4	58.2	84.7	54.7	57.8	76.8	56.5
16.	01.00-02.00	63.0	86.1	51.3	59.5	81.9	55.4	57.3	67.2	56.6
17.	02.00-03.00	59.5	81.4	51.3	58.0	79.4	54.2	57.5	67.4	56.6
18.	03.00-04.00	62.1	89.9	51.1	57.2	71.1	55.6	57.5	70.6	56.5
19.	04.00-05.00	57.2	87.8	51.2	58.1	70.2	55.6	60.0	88.5	56.7
20.	05.00-06.00	52.8	68.4	51.3	62.6	92.6	56.0	60.0	77.0	57.8
21.	06.00-07.00	56.1	86.0	51.4	61.5	84.9	56.4	61.0	74.5	58.0
22.	07.00-08.00	61.3	88.7	51.6	65.9	93.5	56.4	62.9	84.3	57.6
23.	08.00-09.00	57.3	81.0	52.1	57.8	74.9	56.4	66.1	88.5	58.0
24.	09.00-10.00	67.6	95.4	51.1	64.6	86.2	59.6	67.9	93.0	59.3
Leq 24 hr		64.1	-	-	62.9	-	-	65.1	-	-
Lmax		-	101.5	-	-	96.7	-	-	97.3	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-
Ldn		67.8	-	-	67.5	-	-	68.6	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/9-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result (dB (A))											
		ริมรั้วด้านทิศเหนือ											
		20-21/09/23			21-22/09/23			22-23/09/23			23-24/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	65.5	89.5	58.6	63.7	82.2	62.2	67.5	99.6	58.4	67.2	90.6	58.9
2.	11.00-12.00	67.4	94.4	59.0	63.9	88.4	62.1	67.4	91.2	59.4	68.3	87.0	59.5
3.	12.00-13.00	66.4	88.0	58.7	64.6	89.8	61.9	64.5	87.0	59.1	66.0	87.4	58.3
4.	13.00-14.00	67.6	93.5	59.3	65.7	93.4	60.8	64.1	85.0	59.1	62.8	83.0	57.5
5.	14.00-15.00	65.5	87.8	59.3	66.3	90.8	59.1	66.2	92.3	60.0	67.7	98.8	57.0
6.	15.00-16.00	64.8	88.3	59.0	64.1	91.0	58.0	67.1	94.1	60.1	58.8	75.1	56.8
7.	16.00-17.00	63.5	87.1	58.6	68.1	93.9	57.7	64.9	91.2	57.8	60.8	86.9	57.2
8.	17.00-18.00	61.4	77.1	58.9	65.4	94.8	58.0	64.1	73.1	57.7	61.9	81.8	57.4
9.	18.00-19.00	67.4	96.8	58.9	59.5	73.5	57.7	68.9	85.8	59.6	64.2	85.6	58.5
10.	19.00-20.00	68.3	92.8	59.3	60.8	84.9	57.9	69.1	103.7	58.2	67.1	92.0	59.2
11.	20.00-21.00	69.0	100.6	58.8	63.7	86.1	58.0	66.4	88.7	58.3	63.9	84.0	58.0
12.	21.00-22.00	67.2	88.9	59.2	65.2	89.2	57.4	62.1	83.7	58.1	68.7	92.9	58.1
13.	22.00-23.00	62.0	87.2	58.0	61.0	81.7	57.9	62.6	88.4	58.0	64.4	90.7	51.3
14.	23.00-00.00	58.8	70.1	57.5	63.3	89.1	57.1	59.8	83.0	54.2	60.2	88.4	50.9
15.	00.00-01.00	59.5	84.2	57.3	62.3	87.0	57.7	59.3	92.6	54.5	56.1	71.2	49.2
16.	01.00-02.00	58.9	71.0	57.4	63.4	92.7	54.1	57.0	85.9	53.7	57.6	88.4	49.7
17.	02.00-03.00	61.8	84.0	57.7	61.2	86.9	54.2	55.0	74.6	53.0	64.7	92.0	50.0
18.	03.00-04.00	62.0	89.6	57.8	62.8	89.9	54.5	53.6	66.5	52.3	62.1	94.0	52.1
19.	04.00-05.00	58.9	79.5	57.4	61.6	89.2	54.1	54.1	67.2	52.0	60.9	88.4	51.1
20.	05.00-06.00	59.7	82.1	57.5	62.8	92.6	55.4	58.6	87.6	52.2	61.4	86.2	53.1
21.	06.00-07.00	59.0	73.1	57.2	67.6	90.6	58.5	61.4	90.8	53.9	66.3	91.8	52.1
22.	07.00-08.00	61.2	81.1	57.4	67.2	91.7	59.4	59.9	78.3	57.9	62.7	96.6	50.9
23.	08.00-09.00	62.6	85.8	57.1	65.4	86.2	58.7	61.0	84.8	56.6	51.5	67.4	50.1
24.	09.00-10.00	68.5	102.6	62.8	67.2	92.7	59.1	65.0	88.3	57.9	51.9	63.5	50.4
Leq 24 hr		64.9	-	-	64.6	-	-	64.4	-	-	64.2	-	-
Lmax		-	102.6	-	-	94.8	-	-	103.7	-	-	98.8	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-	70	115	-
Ldn		68.3	-	-	70.1	-	-	67.3	-	-	69.4	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager



## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/10-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result (dB (A))								
		ริมรั้วด้านทิศตะวันออก								
		17-18/09/23			18-19/09/23			19-20/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	52.1	79.7	48.8	62.0	71.6	51.8	60.7	82.2	51.6
2.	11.00-12.00	47.8	67.0	45.0	59.9	84.3	50.9	62.4	77.2	52.4
3.	12.00-13.00	51.9	74.8	45.1	59.7	79.7	49.6	60.1	87.3	51.6
4.	13.00-14.00	49.8	65.0	47.6	53.0	75.3	47.7	61.5	83.7	52.3
5.	14.00-15.00	51.0	78.1	47.8	53.0	70.1	47.7	59.2	77.6	52.0
6.	15.00-16.00	53.1	75.0	48.1	57.5	79.0	48.9	53.6	72.7	47.0
7.	16.00-17.00	49.9	75.5	44.0	60.8	80.2	50.4	48.2	63.3	46.5
8.	17.00-18.00	53.2	77.7	49.0	60.2	77.9	49.1	58.0	75.9	47.3
9.	18.00-19.00	50.7	72.0	44.2	53.1	79.2	48.5	60.5	78.0	51.7
10.	19.00-20.00	51.7	78.5	44.1	56.8	81.3	48.6	56.2	74.0	46.3
11.	20.00-21.00	60.9	89.5	53.1	55.1	77.4	49.3	59.4	77.8	47.6
12.	21.00-22.00	60.8	81.5	51.9	52.4	77.6	47.7	58.3	77.6	47.3
13.	22.00-23.00	60.2	82.1	51.5	54.9	80.6	47.8	57.2	80.9	47.1
14.	23.00-00.00	58.6	84.2	51.8	48.3	69.8	47.2	61.8	79.5	47.3
15.	00.00-01.00	59.4	77.7	52.8	51.0	77.7	46.2	49.1	70.0	47.0
16.	01.00-02.00	54.6	73.8	49.6	48.7	66.1	46.3	50.3	70.0	46.5
17.	02.00-03.00	51.2	67.2	49.2	53.3	78.7	46.6	52.1	68.4	46.5
18.	03.00-04.00	51.3	75.1	48.4	52.7	75.4	47.0	50.9	70.3	47.4
19.	04.00-05.00	54.0	79.4	48.0	50.7	68.0	47.4	52.2	74.6	48.9
20.	05.00-06.00	49.2	60.6	47.9	48.5	67.9	47.1	53.9	80.7	49.4
21.	06.00-07.00	48.9	67.8	47.9	49.3	67.1	47.2	52.3	74.5	48.9
22.	07.00-08.00	56.7	75.9	49.4	52.9	70.1	48.9	62.2	80.6	52.7
23.	08.00-09.00	53.6	70.4	49.5	54.9	75.5	48.9	62.4	77.4	51.8
24.	09.00-10.00	64.7	80.0	56.2	60.1	80.8	51.3	59.0	78.3	49.6
Leq 24 hr		56.6	-	-	56.5	-	-	58.6	-	-
Lmax		-	89.5	-	-	84.3	-	-	87.3	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-
Ldn		62.6	-	-	59.6	-	-	62.8	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2981/2023/11-11

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 3, 2023

Sampling Date : September 17-24 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Sep

Item	Time	Result (dB (A))											
		ริมรั้วด้านทิศตะวันออก											
		20-21/09/23			21-22/09/23			22-23/09/23			23-24/09/23		
		Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>	Leq	Lmax	L <sub>90</sub>
1.	10.00-11.00	60.1	78.5	50.5	60.0	78.9	51.7	54.5	76.8	48.7	60.8	88.7	50.6
2.	11.00-12.00	53.6	70.9	49.6	59.2	81.5	51.9	54.1	71.6	49.1	62.4	90.3	54.2
3.	12.00-13.00	53.5	70.0	47.3	58.5	77.6	50.6	54.4	76.5	47.5	57.7	78.6	50.7
4.	13.00-14.00	51.2	70.6	46.9	59.0	77.7	51.1	54.5	76.1	48.5	61.4	88.6	51.9
5.	14.00-15.00	52.0	73.5	47.4	58.6	83.4	47.6	54.7	80.2	50.0	57.3	80.2	49.5
6.	15.00-16.00	57.7	80.7	47.5	51.7	75.2	46.4	60.7	80.6	52.8	55.5	78.4	50.1
7.	16.00-17.00	58.4	75.3	47.5	55.5	74.3	47.1	60.7	83.8	51.5	55.2	77.7	47.6
8.	17.00-18.00	55.2	79.5	48.1	62.3	90.4	51.2	61.4	78.2	51.9	53.5	73.3	47.4
9.	18.00-19.00	51.3	73.3	46.4	61.4	81.8	50.8	59.4	87.8	51.1	53.6	76.2	50.1
10.	19.00-20.00	47.4	67.3	45.9	58.8	85.8	50.5	60.1	81.0	53.1	57.5	85.6	50.2
11.	20.00-21.00	50.8	70.5	48.8	60.1	85.5	52.4	60.1	81.1	52.2	52.5	78.6	48.3
12.	21.00-22.00	52.0	77.6	48.7	58.2	77.4	50.0	52.2	71.0	47.4	53.7	76.7	48.4
13.	22.00-23.00	49.9	66.6	47.4	52.4	74.6	49.5	48.0	56.9	46.9	55.8	76.5	48.3
14.	23.00-00.00	49.1	63.6	47.6	51.9	74.6	48.8	51.8	76.9	47.5	54.1	73.9	48.3
15.	00.00-01.00	51.3	73.9	48.1	52.4	74.1	47.4	51.9	76.9	47.6	52.3	79.3	48.1
16.	01.00-02.00	50.1	66.0	48.1	53.5	71.3	46.9	53.1	75.1	47.3	52.5	73.2	48.0
17.	02.00-03.00	53.2	77.7	48.5	54.9	74.6	47.7	48.8	68.6	46.7	52.5	75.7	47.8
18.	03.00-04.00	53.5	77.2	48.1	53.7	75.9	48.2	48.8	65.6	46.6	50.0	72.0	47.7
19.	04.00-05.00	49.9	67.0	47.8	51.7	72.5	47.3	48.8	67.6	46.7	59.5	76.9	47.6
20.	05.00-06.00	49.7	67.6	47.8	50.2	72.6	47.4	51.1	75.2	47.7	57.3	78.1	47.3
21.	06.00-07.00	54.0	68.1	49.6	50.5	65.8	47.7	53.1	77.1	47.6	48.3	63.6	46.7
22.	07.00-08.00	64.7	80.5	49.6	54.2	70.8	47.8	51.7	73.0	47.4	47.0	63.3	45.9
23.	08.00-09.00	59.1	77.3	51.8	56.5	74.0	48.5	50.4	70.7	47.4	48.0	66.7	46.0
24.	09.00-10.00	61.8	80.6	54.1	59.2	82.2	48.5	57.8	86.1	47.5	50.6	73.0	46.2
Leq 24 hr		56.4	-	-	57.4	-	-	56.3	-	-	56.4	-	-
Lmax		-	80.7	-	-	90.4	-	-	87.8	-	-	90.3	-
Standard <sup>(1)(2)</sup>		70	115	-	70	115	-	70	115	-	70	115	-
Ldn		59.6	-	-	60.7	-	-	59.3	-	-	61.7	-	-

Standard : <sup>(1)</sup> Notification of the National Environment Board No. 15 (B.E 2540)(1997)

<sup>(2)</sup> Notification of the Ministry of Industry (B.E 2548)(2005)

Wannasiri S.

Wannasiri Suriyawong



Somchai P.

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

**Analysis No.** : R23-2638  
**Received Date** : 22, 24/08/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang, Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 31/08/23  
**Analysis Date** : 23-30/08/23  
**Job No.** : S660448/Aug/Occ  
**Sampling By** : TET  
**Type of Sample** : Working Area

Sample No.	Sampling point	Parameter	Unit	Sampling Date	Result	Standard <sup>(1)</sup>	Analysis Date
2308-AW0570	บริเวณเตาหลอมอะลูมิเนียม Die Casting/Fab2	Total Dust	mg/m <sup>3</sup>	21/08/23	0.250	10 <sup>(2)</sup>	23-24/08/23
		Al	mg/m <sup>3</sup>	21/08/23	< 0.04	15	30/08/23
		HF	ppm	21/08/23	< 0.012	3	24/08/23
		HCl	ppm	21/08/23	0.089	5*	24/08/23
2308-AW0658 2308-AW0659 2308-AW0660	บริเวณเครื่องรีด Press Area/B-Line Press Area/C-Line Press Area/Mini-Line	Total Dust	mg/m <sup>3</sup>	23/08/23	0.251	10 <sup>(2)</sup>	25-28/08/23
		Total Dust	mg/m <sup>3</sup>	23/08/23	< 0.010	10 <sup>(2)</sup>	25-28/08/23
		Total Dust	mg/m <sup>3</sup>	23/08/23	< 0.010	10 <sup>(2)</sup>	25-28/08/23
2308-AW0571 2308-AW0572 2308-AW0573 2308-AW0574	บริเวณโรงประกอบ Cutting Area/Fab1/GF Cutting Area/Fab2/GF Cutting Area/Fab3A Cutting Area/Fab3 BF/OM	Total Dust	mg/m <sup>3</sup>	21/08/23	< 0.010	10 <sup>(2)</sup>	23-24/08/23
		Total Dust	mg/m <sup>3</sup>	21/08/23	< 0.010	10 <sup>(2)</sup>	23-24/08/23
		Total Dust	mg/m <sup>3</sup>	21/08/23	< 0.010	10 <sup>(2)</sup>	23-24/08/23
		Total Dust	mg/m <sup>3</sup>	21/08/23	0.167	10 <sup>(2)</sup>	23-24/08/23

**Remarks** \* Ceiling

**Method** : Total Dust - Filtering, Gravimetric (NIOSH 0500, Issue 2 :Aug 1994)  
Al - Filtering, ICP (NIOSH 7300, Issue 3: Mar 2003)  
HF - Filtering, ISE (OSHA ID-110, Feb 1991)  
HCl - Solid Sorbent Tube, IC (OSHA ID-174SG, Feb 1986)

**Standard** (1) Notification of the Department of Labour Protection and Welfare. (2017) (B.E. 2560) (TLV-TWA)  
(2) American Conference of Governmental Industrial Hygienists ; ACGIH (TLV-TWA)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
31/08/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
31/08/23

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## TEST REPORT

**Analysis No.** : R23-2638  
**Received Date** : 23/08/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang, Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 31/08/23  
**Analysis Date** : 24-28/08/23  
**Job No.** : S660448/Aug/Occ  
**Sampling By** : TET  
**Type of Sample** : Working Area

Sample No.	Sampling point	Parameter	Unit	Sampling Date	Result	Standard	Analysis Date
บริเวณพื้นที่ขุบ							
2308-AW0623	Surface Area/B-Line	H <sub>2</sub> SO <sub>4</sub>	mg/m <sup>3</sup>	22/08/23	0.09	1	24/08/23
		NaOH	mg/m <sup>3</sup>	22/08/23	< 0.40	2	28/08/23
2308-AW0624	Surface Area/C-Line	H <sub>2</sub> SO <sub>4</sub>	mg/m <sup>3</sup>	22/08/23	0.16	1	24/08/23
		NaOH	mg/m <sup>3</sup>	22/08/23	< 0.40	2	28/08/23
บริเวณพื้นที่พ่นสี							
2308-AW0625	Paint Room/ST-Paint Line (ห้องพ่นสี PN line/Paint-line)	Xylene	ppm	22/08/23	< 0.009	100	24-25/08/23
		Toluene	ppm	22/08/23	< 0.011	200	24-25/08/23
		Benzene	ppm	22/08/23	0.038	1	24-25/08/23
2308-AW0626	Paint Room/B-Line	Xylene	ppm	22/08/23	< 0.009	100	24-25/08/23
		Toluene	ppm	22/08/23	< 0.011	200	24-25/08/23
		Benzene	ppm	22/08/23	0.023	1	24-25/08/23
บริเวณบ่อขุบ จุดไหลคละคูมึนเนี่ยมเส้น							
2308-AW0627	บริเวณบ่อขุบ จุดไหลคละคูมึนเนี่ยมเส้น C-Line	HF	ppm	22/08/23	< 0.012	3	24/08/23

**Method** : H<sub>2</sub>SO<sub>4</sub> - Filtering, IC (NIOSH 7908, Issue 1: May 2014)  
NaOH - Filtering, Titrimetric (NIOSH 7401, Issue 2 :Aug 1994)  
Xylene - Solid Sorbent Tube, GC/FID (NIOSH 1501, Issue 3 :Mar 2003)  
Toluene - Solid Sorbent Tube, GC/FID (NIOSH 1501, Issue 3 :Mar 2003)  
Benzene - Solid Sorbent Tube, GC/FID (NIOSH 1501, Issue 3 :Mar 2003)  
HF - Filtering, ISE (OSHA ID-110, Feb 1991)

**Standard** : Notification of the Department of Labour Protection and Welfare. (2017) (B.E. 2560) (TLV-TWA)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
21/08/23



Approved by

Mrs. Pomtip Pethshee  
Laboratory Manager  
31/08/23

..... END OF REPORT .....

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## TEST REPORT

**Analysis No.** : R23-3041  
**Received Date** : 25/09/23  
**Customer** : Technical Division of Thai Environmental Technic Limited  
For Tostem Thai Co., Ltd./South Factory/EIA  
**Address** : 60/2 Moo 19, Soi Navanakorn 11, Zone 2, Phaholyothin Road,  
Klongnueng, Klongluang, Pathumthani 12120  
**Contact** : Tel. (02) 529 0474 # 1965 Fax. (02) 529 4385

**Report Date** : 04/10/23  
**Analysis Date** : 26/09-02/10/23  
**Job No.** : S660448/Sep/Occ  
**Sampling By** : TET  
**Type of Sample** : Working Area

Sample No.	Sampling point	Parameter	Unit	Sampling Date	Result	Standard <sup>(1)</sup>	Analysis Date
2309-AW0812	เตาหลอมอะลูมิเนียม (CASTING GROUP) Melting Furnace/A-Line	Total Dust	mg/m <sup>3</sup>	22/09/23	0.334	10 <sup>(2)</sup>	26-27/09/23
		Al	mg/m <sup>3</sup>	22/09/23	< 0.04	15	02/10/23
		HF	ppm	22/09/23	< 0.012	3	26/09/23
		HCl	ppm	22/09/23	< 0.007	5*	26/09/23

**Remarks** \* Ceiling

**Method** : Total Dust - Filtering, Gravimetric (NIOSH 0500, Issue 2 :Aug 1994)  
Al - Filtering, ICP (NIOSH 7300, Issue 3: Mar 2003)  
HF - Filtering, ISE (OSHA ID-110, Feb 1991)  
HCl - Solid Sorbent Tube, IC (OSHA ID-174SG, Feb 1986)

**Standard** (1) Notification of the Department of Labour Protection and Welfare. (2017) (B.E. 2560) (TLV-TWA)  
(2) American Conference of Governmental Industrial Hygienists ; ACGIH (TLV-TWA)

Reviewed by

Ms. Wareerut Prachumdaeng  
Chief of Laboratory  
04/10/23



Approved by

Mrs. Pornpip Pethshee  
Laboratory Manager  
04/10/23

..... END OF REPORT .....

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/1-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10, 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Sampling Time	Result (dB(A))	
		บริเวณเตาหลอมอะลูมิเนียม	
		Melting furnace No. 2/A-line/CA	
		10/10/23	
		Leq 1 hr.	Lmax
1.	09:00-10:00	81.6	93.6
2.	10:00-11:00	81.9	88.8
3.	11:00-12:00	83.1	102.0
4.	12:00-13:00	80.8	83.1
5.	13:00-14:00	80.1	91.9
6.	14:00-15:00	82.9	97.8
7.	15:00-16:00	82.6	102.2
8.	16:00-17:00	83.4	100.1
Leq 8 hr		82.2	-
Lmax		-	102.2
Standard		90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Yoonim*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/2-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10, 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Sampling Time	Result (dB(A))			
		เครื่องรีด/EXTRUSION GROUP			
		Press machine/B-line/ EX		Press machine/C-line/ EX	
		10/10/23		10/10/23	
		Leq 1 hr.	Lmax	Leq 1 hr.	Lmax
1.	09:00-10:00	90.2	100.4	85.8	102.2
2.	10:00-11:00	90.8	100.6	83.1	98.3
3.	11:00-12:00	86.0	99.1	77.3	81.3
4.	12:00-13:00	84.6	97.5	77.9	89.0
5.	13:00-14:00	91.1	102.5	83.5	103.1
6.	14:00-15:00	89.8	101.3	84.0	103.3
7.	15:00-16:00	84.7	100.0	83.3	96.4
8.	16:00-17:00	83.6	92.3	83.9	96.8
Leq 8 hr		88.5	-	83.1	-
Lmax		-	102.5	-	103.3
Standard		90	140	90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/3-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 12, 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Sampling Time	Result (dB(A))	
		บริเวณพื้นที่ซุ่ม	
		Chiller Area/C-line/ST	
		12/10/23	
		Leq 1 hr.	Lmax
1.	09:00-10:00	77.6	84.8
2.	10:00-11:00	77.7	81.1
3.	11:00-12:00	77.7	84.8
4.	12:00-13:00	77.6	80.6
5.	13:00-14:00	77.5	82.1
6.	14:00-15:00	78.1	80.2
7.	15:00-16:00	77.9	80.6
8.	16:00-17:00	78.2	80.2
Leq 8 hr		77.8	-
Lmax		-	84.8
Standard		90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Yoonim*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/4-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10, 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Sampling Time	Result (dB(A))			
		บริเวณพื้นที่พ่นสี			
		Paint Room/Paint Line/ST		Paint Room/B-Line/ST	
		10/10/23		10/10/23	
		Leq 1 hr.	Lmax	Leq 1 hr.	Lmax
1.	09:00-10:00	77.5	87.1	79.6	96.5
2.	10:00-11:00	77.1	83.4	79.7	94.6
3.	11:00-12:00	76.9	86.9	80.0	87.4
4.	12:00-13:00	73.7	85.7	79.5	88.8
5.	13:00-14:00	77.4	87.6	79.5	87.6
6.	14:00-15:00	77.1	83.2	81.0	100.4
7.	15:00-16:00	76.4	85.6	79.6	85.6
8.	16:00-17:00	76.6	82.3	79.3	86.5
Leq 8 hr		76.7	-	79.8	-
Lmax		-	87.6	-	100.4
Standard		90	140	90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
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1/6 Soi Ramkhamhaeng 145, Khwaeng / Khet Saphansung, Bangkok 10240  
1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

E-mail : admin@tet1995.com  
Tel : 0-2373-7799 (Auto) Fax : 0-2373-7979

## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/5-18  
Report Date : October 18, 2023  
Sampling Date : October 11, 2023  
Type of Sample: Sound Level

Item	Sampling Time	Result (dB(A))			
		บริเวณโรงประกอบ			
		Cutting Area/Fab1/GF		Cutting Area/Fab2/GF	
		11/10/23		11/10/23	
		Leq 1 hr.	Lmax	Leq 1 hr.	Lmax
1.	09:00-10:00	83.1	100.4	79.1	100.6
2.	10:00-11:00	82.7	98.6	78.9	85.9
3.	11:00-12:00	82.1	96.2	78.3	86.2
4.	12:00-13:00	74.5	95.8	72.0	83.9
5.	13:00-14:00	82.9	99.0	74.8	84.3
6.	14:00-15:00	85.8	103.4	80.7	104.0
7.	15:00-16:00	83.2	99.0	77.9	89.0
8.	16:00-17:00	83.7	99.6	74.4	93.5
Leq 8 hr		83.0	-	77.8	-
Lmax		-	103.4	-	104.0
Standard		90	140	90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Y.*  
Suphakchaya Yoonim



*Somchai P.*  
Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/6-18  
Report Date : October 18, 2023  
Sampling Date : October 11, 2023  
Type of Sample: Sound Level

Item	Sampling Time	Result (dB(A))			
		บริเวณโรงประกอบ			
		Cutting Area/Fab3/Fab		Cutting Area/Fab3B/OM	
		11/10/23		11/10/23	
		Leq 1 hr.	Lmax	Leq 1 hr.	Lmax
1.	09:00-10:00	86.6	98.8	88.3	109.5
2.	10:00-11:00	86.9	100.5	90.8	104.0
3.	11:00-12:00	84.6	96.7	91.3	106.0
4.	12:00-13:00	79.0	88.1	86.0	99.1
5.	13:00-14:00	82.3	94.6	89.8	101.3
6.	14:00-15:00	82.0	100.1	84.7	100.0
7.	15:00-16:00	84.6	100.9	83.6	92.3
8.	16:00-17:00	84.3	96.9	84.6	97.5
Leq 8 hr		84.4	-	88.3	-
Lmax		-	100.9	-	109.5
Standard		90	140	90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/7-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 12, 2023

Type of Sample: Sound Level

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Sampling Time	Result (dB(A))	
		บริเวณเตาหลอมอะลูมิเนียม (CASTING GROUP)	
		Die Casting/Fab2/PT	
		12/10/23	
		Leq 1 hr.	Lmax
1.	09:00-10:00	79.3	94.9
2.	10:00-11:00	78.6	87.1
3.	11:00-12:00	77.6	89.2
4.	12:00-13:00	72.4	88.8
5.	13:00-14:00	78.2	91.0
6.	14:00-15:00	79.0	89.2
7.	15:00-16:00	79.1	90.9
8.	16:00-17:00	78.5	84.9
Leq 8 hr		78.2	-
Lmax		-	94.9
Standard		90	140

Standard : Notification of the Ministry of Industry (2003) (B.E. 2546)

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/8-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10, 2023

Type of Sample: Noise Dose

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Description	Unit	Result	Standard
			บริเวณเตาหลอมอะลูมิเนียม	
			Melting furnace No.2/A-line/CA	
1.	Sampling Date	-	10/10/23	-
2.	Sampling Time	-	09.00-17.00	-
3.	TWA (8 hr)	dB(A)	80.5	85 <sup>(1)</sup>
4.	Lmax	dB(A)	90.1	115 <sup>(2)</sup>
5.	Dose	%	35.7	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)

<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)

<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager





## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/9-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10, 2023

Type of Sample: Noise Dose

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Description	Unit	Result		Standard
			บริเวณเครื่องรีด		
			Press machine/B-Line/EX	Press machine/C-Line/EX	
1.	Sampling Date	-	10/10/23	10/10/23	-
2.	Sampling Time	-	09.00-17.00	09.00-17.00	-
3.	TWA (8 hr)	dB(A)	81.5	80.5	85 <sup>(1)</sup>
4.	Lmax	dB(A)	97.2	107.8	115 <sup>(2)</sup>
5.	Dose	%	44.7	35.4	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)

<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)

<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/10-18  
Report Date : October 18, 2023  
Sampling Date : October 12, 2023  
Type of Sample: Noise Dose

Item	Description	Unit	Result	Standard
			บริเวณพื้นที่ขุบ	
			Chiller Area/C-line/ST	
1.	Sampling Date	-	12/10/23	-
2.	Sampling Time	-	09:00-17:00	-
3.	TWA (8 hr)	dB(A)	61.5	85 <sup>(1)</sup>
4.	Lmax	dB(A)	86.8	115 <sup>(2)</sup>
5.	Dose	%	0.4	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)  
<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)  
<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

  
Suphakchaya Yoonim



  
Somchai Piyavorasakul  
General Manager





## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/11-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10, 2023

Type of Sample: Noise Dose

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Description	Unit	Result		Standard
			บริเวณพื้นที่พ่นสี		
			Paint Room/B-Line/ST	Paint Room/Paint Line/ST	
1.	Sampling Date	-	10/10/23	10/10/23	-
2.	Sampling Time	-	09.00-17.00	09.00-17.00	-
3.	TWA (8 hr)	dB(A)	69.1	67.9	85 <sup>(1)</sup>
4.	Lmax	dB(A)	92.1	111.1	115 <sup>(2)</sup>
5.	Dose	%	2.5	1.9	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)

<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)

<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager

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## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/12-18  
Report Date : October 18, 2023  
Sampling Date : October 11, 2023  
Type of Sample: Noise Dose

Item	Description	Unit	Result		Standard
			บริเวณโรงประกอบ		
			Cutting Area/Fab1/GF	Cutting Area/Fab2/GF	
1.	Sampling Date	-	11/10/23	11/10/23	-
2.	Sampling Time	-	09.00-17.00	09.00-17.00	-
3.	TWA (8 hr)	dB(A)	79.5	67.4	85 <sup>(1)</sup>
4.	Lmax	dB(A)	98.8	88.2	115 <sup>(2)</sup>
5.	Dose	%	28.0	1.7	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)  
<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)  
<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager





## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/13-18  
Report Date : October 18, 2023  
Sampling Date : October 11, 2023  
Type of Sample: Noise Dose

Item	Description	Unit	Result		Standard
			บริเวณโรงประกอบ		
			Cutting Area/Fab3A/Fab	Cutting Area/Fab3B/BF/OM	
1.	Sampling Date	-	11/10/23	11/10/23	-
2.	Sampling Time	-	09.00-17.00	09.00-17.00	-
3.	TWA (8 hr)	dB(A)	62.5	71.7	85 <sup>(1)</sup>
4.	Lmax	dB(A)	88.8	89.8	115 <sup>(2)</sup>
5.	Dose	%	0.6	4.6	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)  
<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)  
<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

*Suphakchaya Yoonim*  
Suphakchaya Yoonim

*Somchai P.*  
Somchai Piyavorasakul  
General Manager



## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/14-18  
Report Date : October 18, 2023  
Sampling Date : October 12, 2023  
Type of Sample: Noise Dose

Item	Description	Unit	Result	Standard
			บริเวณเตาหลอมอะลูมิเนียม (CASTING GROUP)	
			Die Casting/Fab2/PT	
1.	Sampling Date	-	12/10/23	-
2.	Sampling Time	-	09.00-17.00	-
3.	TWA (8 hr)	dB(A)	71.5	85 <sup>(1)</sup>
4.	Lmax	dB(A)	95.3	115 <sup>(2)</sup>
5.	Dose	%	4.4	100 <sup>(3)</sup>

Standard : <sup>(1)</sup> Notification of the Department of Labour Protection and Welfare (2018) (B.E. 2561)  
<sup>(2)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559)  
<sup>(3)</sup> American Conference of Governmental Industrial Hygienists; ACGIH

*Suphakchaya Y.*  
Suphakchaya Yoonim



*Somchai P.*  
Somchai Piyavorasakul  
General Manager





## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/15-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 10 & 12, 2023

Type of Sample: Heat

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Description	Sampling Date	Time	Result (°C)				
				NWB	DB	GT	WBGT	WBGT Average
1.	บริเวณเตาหลอมอะลูมิเนียม (CASTING GROUP) Melting Furnace A-Line/CA - ขับรถโฟล์คลิฟท์นำอะลูมิเนียมเข้าเตาหลอม และควบคุมเครื่องจักรหน้าเตาหลอม (100 นาที) - ทำงานเอกสาร/นั่งพัก (20 นาที)	10/10/23	10.00-12.00	29.2 25.5	36.3 27.0	37.4 27.8	31.7 26.2	30.8
2.	Die Casting/FAB2/PT - ยืนควบคุมเตาหลอมอะลูมิเนียมขึ้นรูปชิ้นงาน อะลูมิเนียม (Al) (120 นาที)	12/10/23	13.00-15.00	29.6	33.5	34.3	31.0	31.0
Standard <sup>(1)(2)</sup>				-	-	-	-	32.0

Standard : <sup>(1)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559) ; Moderate Work Load

<sup>(2)</sup> Notification of the Ministry of Industry (2003) (B.E. 2546) ; Moderate Work Load

Remark : Indoor (inside building or workplace) : WBGT = 0.7 NWB + 0.3 GT

When :

DB = Dry Bulb Thermometer

GT = Globe Thermometer

NWB = Natural Wet Bulb Thermometer

WBGT = Wet Bulb Globe Temperature

$$WBGT \text{ Average} = \frac{(WBGT_1 \times t_1) + (WBGT_2 \times t_2) + \dots + (WBGT_n \times t_n)}{t_1 + t_2 + \dots + t_n}$$

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager



## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/16-18  
Report Date : October 18, 2023  
Sampling Date : October 10, 2023  
Type of Sample: Heat

Item	Description	Sampling Date	Time	Result (°C)				
				NWB	DB	GT	WBGT	WBGT Average
1.	บริเวณเครื่องรีด (EXTRUSION GROUP) Press Area/B-Line - ยืนควบคุมเครื่องรีดแผ่นอะลูมิเนียมและ เปลี่ยนหัวแม่พิมพ์ (Mold) (120 นาที)	10/10/23	10.00-12.00	28.9	34.6	35.4	30.9	30.9
2.	Press Area/C-Line - ยืนควบคุมเครื่องรีดแผ่นอะลูมิเนียมและ เปลี่ยนหัวแม่พิมพ์ (Mold) (120 นาที)	10/10/23	10.00-12.00	28.5	34.4	35.3	30.5	30.5
Standard <sup>(1)(2)</sup>				-	-	-	-	32.0

Standard : <sup>(1)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559) ; Moderate Work Load

<sup>(2)</sup> Notification of the Ministry of Industry (2003) (B.E. 2546) ; Moderate Work Load

Remark : Indoor (inside building or workplace) : WBGT = 0.7 NWB + 0.3 GT  
When : DB = Dry Bulb Thermometer  
GT = Globe Thermometer  
NWB = Natural Wet Bulb Thermometer  
WBGT = Wet Bulb Globe Temperature

$$\text{WBGT Average} = \frac{(\text{WBGT}_1 \times t_1) + (\text{WBGT}_2 \times t_2) + \dots + (\text{WBGT}_n \times t_n)}{t_1 + t_2 + \dots + t_n}$$

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager





## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA

Report No. : 2023/17-18

Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120

Report Date : October 18, 2023

Sampling Date : October 12, 2023

Type of Sample: Heat

Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385

Job No. : S660448/Oct/Occ

Item	Description	Sampling Date	Time	Result (°C)				
				NWB	DB	GT	WBGT	WBGT Average
1.	บริเวณพื้นที่ซุบ (SURFACE TREATMENT GROUP) Loading Area/C-Line/ST - ยืนตรวจสอบจัดเรียงแผ่นอะลูมิเนียมก่อนเข้า บ่อซุบและควบคุมเครื่องจักร (120 นาที)	12/10/23	10.00-12.00	28.6	33.8	34.2	30.3	30.3
2.	Unloading Area/C-Line/ST - ยืนตรวจสอบจัดเรียงแผ่นอะลูมิเนียมหลังออก จากบ่อซุบและควบคุมเครื่องจักร (120 นาที)	12/10/23	10.00-12.00	28.4	34.0	35.2	30.4	30.4
Standard <sup>(1)(2)</sup>				-	-	-	-	32.0

Standard : <sup>(1)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559) ; Moderate Work Load

<sup>(2)</sup> Notification of the Ministry of Industry (2003) (B.E. 2546) ; Moderate Work Load

Remark : Indoor (inside building or workplace) : WBGT = 0.7 NWB + 0.3 GT

When :

DB = Dry Bulb Thermometer

GT = Globe Thermometer

NWB = Natural Wet Bulb Thermometer

WBGT = Wet Bulb Globe Temperature

$$\text{WBGT Average} = \frac{(\text{WBGT}_1 \times t_1) + (\text{WBGT}_2 \times t_2) + \dots + (\text{WBGT}_n \times t_n)}{t_1 + t_2 + \dots + t_n}$$

*Suphakchaya Y.*

Suphakchaya Yoonim



*Somchai P.*

Somchai Piyavorasakul  
General Manager



## TEST REPORT

Customer Name: Tostem Thai Co., Ltd./South Factory/EIA  
Address : 60/2 Moo 19, Soi Navanakorn 11 Zone 2,  
Phaholyothin Rd., Klongnueng, Klongluang,  
Pathumthani 12120  
Contact : Tel : (02) 529 0474 # 1965 Fax : (02) 529 4385  
Job No. : S660448/Oct/Occ

Report No. : 2023/18-18  
Report Date : October 18, 2023  
Sampling Date : October 10, 2023  
Type of Sample: Heat


Item	Description	Sampling Date	Time	Result (°C)				
				NWB	DB	GT	WBGT	WBGT Average
1.	บริเวณพื้นที่พ่นสี Paint/B-Line (Unloading area หรือ Loading area) - ยืนตรวจสอบและจัดเรียงแผ่นอะลูมิเนียม เข้าห้องพ่นสี/ควบคุมเครื่องพ่นสี (120 นาที)	10/10/23	13.00-15.00	28.7	33.1	34.0	30.3	30.3
2.	Paint/Line (Unloading area หรือ Loading area) - ยืนตรวจสอบและจัดเรียงแผ่นอะลูมิเนียม เข้าห้องพ่นสี/ควบคุมเครื่องพ่นสี (120 นาที)	10/10/23	13.00-15.00	28.5	32.6	33.2	29.9	29.9
Standard <sup>(1)(2)</sup>				-	-	-	-	32.0

Standard : <sup>(1)</sup> Ministry of Labour's Regulation (2016) (B.E. 2559) ; Moderate Work Load

<sup>(2)</sup> Notification of the Ministry of Industry (2003) (B.E. 2546) ; Moderate Work Load

Remark : Indoor (inside building or workplace) : WBGT = 0.7 NWB + 0.3 GT  
When : DB = Dry Bulb Thermometer  
GT = Globe Thermometer  
NWB = Natural Wet Bulb Thermometer  
WBGT = Wet Bulb Globe Temperature

$$\text{WBGT Average} = \frac{(\text{WBGT}_1 \times t_1) + (\text{WBGT}_2 \times t_2) + \dots + (\text{WBGT}_n \times t_n)}{t_1 + t_2 + \dots + t_n}$$

  
Suphakchaya Yoonim



  
Somchai Piyavorasakul  
General Manager




ผลการวิเคราะห์น้ำทิ้งอุตสาหกรรม  
บริษัท คูริตะ-จีเค เคมีคอล จำกัด







Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0701

Lab No.: 03-0-88018-FG2627

21-Aug-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		26-Jul-23	26-Jul-23		
Sampling Time					
Odour		not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	39	26	300	300
pH	-	6.51	7.58	5.5 - 9.0	6.0 - 9.0
Temperature	°C	32	32	-	-
Iron (AAS)	mg/l as Fe	1.71	0.16	-	5
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	1110.00	1020.00	-	-
Total Dissolved Solids	mg/l	1725	2532	3000	3000
Suspended Solids	mg/l	1337	15	50	500
COD(Cr)	mg/l as O <sub>2</sub>	84	45	120	600
BOD	mg/l as O <sub>2</sub>	5	8	20	450
Oil & Grease	mg/l	< 1	< 1	5	100
Formaldehyde	mg/l as HCHO	< 0.12	0.16	1	1
Phenolic	mg/l as phenol	0.002	0.001	1	10
Total Kjeldahl Nitrogen	mg/l as N	2.80	1.10	100	100
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0701

Lab No.: 03-0-88018-FG2627


21-Aug-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		26-Jul-23	26-Jul-23		
Sampling Time					
Fluoride	mg/l as F	< 0.20	< 0.20	-	8
Copper	mg/l as Cu	0.23	0.01	2	1
Manganese	mg/l as Mn	0.11	0.04	5	5
Zinc	mg/l as Zn	0.09	0.01	5	5
Cyanide	mg/l as CN	0.16	0.01	0.2	5
Aluminium	mg/l as Al	233.80	0.38		5
Barium	mg/l as Ba	0.10	0.06	1	1
Cadmium	mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium	mg/l as Cr <sup>3+</sup>	1.78	0.20	0.75	0.75
Hexavalent Chromium	mg/l as Cr <sup>6+</sup>	ND	ND	0.25	0.25
Lead	mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury	mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel	mg/l as Ni	1.26	0.14	1	1
Selenium	mg/l as Se	< 0.0004	< 0.0004	0.02	1
Cobalt	mg/l as Co	< 0.05	< 0.05	-	-
Remark :					

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0801

Lab No.: 03-0-88018-FH1821

7-Sep-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		17-Aug-23	17-Aug-23		
Sampling Time					
Odour		not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	70	36	300	300
pH	-	4.33	7.18	5.5 - 9.0	6.0 - 9.0
Temperature	°C	31.5	31.5	-	-
Iron (AAS)	mg/l as Fe	2.83	0.31	-	5
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	1425.00	1062.50	-	-
Total Dissolved Solids	mg/l	1818	2049	3000	3000
Suspended Solids	mg/l	462	9	50	500
COD(Cr)	mg/l as O <sub>2</sub>	52	30	120	600
BOD	mg/l as O <sub>2</sub>	< 3	8	20	450
Oil & Grease	mg/l	6.8	3.2	5	100
Formaldehyde	mg/l as HCHO	< 0.12	< 0.12	1	1
Phenolic	mg/l as phenol	0.047	0.014	1	10
Total Kjeldahl Nitrogen	mg/l as N	2.20	7.80	100	100
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0801

Lab No.: 03-0-88018-FH1821

7-Sep-23


ITEM NAME \ SAMPLE NAME		RAW WASTE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		17-Aug-23	17-Aug-23		
Sampling Time					
Fluoride	mg/l as F	< 0.20	< 0.20	-	8
Copper	mg/l as Cu	0.46	0.03	2	1
Manganese	mg/l as Mn	0.18	0.06	5	5
Zinc	mg/l as Zn	0.16	0.04	5	5
Cyanide	mg/l as CN	0.31	ND	0.2	5
Aluminium	mg/l as Al	260.00	1.80	-	5
Barium	mg/l as Ba	0.85	0.06	1	1
Cadmium	mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium	mg/l as Cr <sup>3+</sup>	1.41	< 0.1	0.75	0.75
Hexavalent Chromium	mg/l as Cr <sup>6+</sup>	0.41	ND	0.25	0.25
Lead	mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury	mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel	mg/l as Ni	2.11	0.11	1	1
Selenium	mg/l as Se	< 0.0004	< 0.0004	0.02	1
Cobalt	mg/l as Co	< 0.05	< 0.05	-	-
Remark :					

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0901

Lab No.: 03-0-88018-FI1518

26-Sep-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		15-Sep-23	15-Sep-23		
Sampling Time					
Odour		-	not disagreeable	-	-
Color (ADMI)	ADMI	38	36	300	300
pH	-	8.51	6.58	5.5 - 9.0	6.0 - 9.0
Temperature	°C	32	32	-	-
Iron (AAS)	mg/l as Fe	3.65	0.27	-	5
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	1380.00	846.00	-	-
Total Dissolved Solids	mg/l	2702	2330	3000	3000
Suspended Solids	mg/l	972	15	50	500
COD(Cr)	mg/l as O <sub>2</sub>	566	30	120	600
BOD	mg/l as O <sub>2</sub>	216	14	20	450
Oil & Grease	mg/l	< 1	< 1	5	100
Formaldehyde	mg/l as HCHO	< 0.12	< 0.12	1	1
Phenolic	mg/l as phenol	0.007	0.001	1	10
Total Kjeldahl Nitrogen	mg/l as N	0.80	9.20	100	100
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0901

Lab No.: 03-0-88018-FI1518

26-Sep-23


ITEM NAME \ SAMPLE NAME	RAW WASTE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakom standard
Sampling Date	15-Sep-23	15-Sep-23		
Sampling Time				
Fluoride mg/l as F	< 0.20	< 0.20	-	8
Copper mg/l as Cu	0.45	0.03	2	1
Manganese mg/l as Mn	0.21	0.09	5	5
Zinc mg/l as Zn	0.15	0.02	5	5
Cyanide mg/l as CN	0.45	ND	0.2	5
Aluminium mg/l as Al	471.00	0.83	-	5
Barium mg/l as Ba	0.21	0.08	1	1
Cadmium mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	2.02	< 0.1	0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND	ND	0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel mg/l as Ni	1.65	0.30	1	1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02	1
Cobalt mg/l as Co	< 0.05	< 0.05	-	-
Remark :				

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostern Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1001

Lab No.: 03-0-88018-FJ0910

20-Oct-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakom standard
Sampling Date		6-Oct-23	6-Oct-23		
Sampling Time					
Odour		not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	53	49	300	300
pH	-	4.41	7.09	5.5 - 9.0	6.0 - 9.0
Temperature	°C	31	31	-	-
Iron (AAS)	mg/l as Fe	2.06	0.12	-	5
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	740.00	760.00	-	-
Total Dissolved Solids	mg/l	1736	2014	3000	3000
Suspended Solids	mg/l	1324	14	50	500
COD(Cr)	mg/l as O <sub>2</sub>	199	42	120	600
BOD	mg/l as O <sub>2</sub>	96	7	20	450
Oil & Grease	mg/l	< 1	< 1	5	100
Formaldehyde	mg/l as HCHO	< 0.12	0.65	1	1
Phenolic	mg/l as phenol	0.030	0.072	1	10
Total Kjeldahl Nitrogen	mg/l as N	20.40	14.80	100	100
Remark :					


Report results refer to submitted sample(s) only



Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1001

Lab No.: 03-0-88018-FJ0910


20-Oct-23

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER		DISCHARGE WATER		Effluent Standard of MOI (Not excess)	Navanakorn standard
	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)		
Sampling Date	6-Oct-23	6-Oct-23				
Sampling Time						
Fluoride mg/l as F	0.47	< 0.20	-			8
Copper mg/l as Cu	0.41	0.05	2			1
Manganese mg/l as Mn	0.15	0.07	5			5
Zinc mg/l as Zn	0.27	0.03	5			5
Cyanide mg/l as CN	0.43	< 0.010	0.2			5
Aluminium mg/l as Al	371.40	0.82	-			5
Barium mg/l as Ba	0.09	0.05	1			1
Cadmium mg/l as Cd	< 0.004	< 0.004	0.03			1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	1.46	< 0.1	0.75			0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND	ND	0.25			0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2			1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005			0.01
Nickel mg/l as Ni	0.93	0.17	1			1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02			1
Cobalt mg/l as Co	< 0.05	< 0.05	-			-
Remark :						

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1101

Lab No.: 03-0-88018-FK1617

1-Dec-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		16-Nov-23	16-Nov-23		
Sampling Time					
Odour		not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	31	26	300	300
pH	-	10.83	7.87	5.5 - 9.0	6.0 - 9.0
Temperature	°C	30.5	30.5	-	-
Iron (AAS)	mg/l as Fe	4.62	0.13	-	5
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	72.16	61.81	-	-
Total Dissolved Solids	mg/l	4098	2524	3000	3000
Suspended Solids	mg/l	936	42	50	500
COD(Cr)	mg/l as O <sub>2</sub>	103	35	120	600
BOD	mg/l as O <sub>2</sub>	14	8	20	450
Oil & Grease	mg/l	1.8	< 1	5	100
Formaldehyde	mg/l as HCHO	0.47	< 0.12	1	1
Phenolic	mg/l as phenol	0.015	0.002	1	10
Total Kjeldahl Nitrogen	mg/l as N	1.90	6.40	100	100
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostern Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1101

Lab No.: 03-0-88018-FK1617


1-Dec-23

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER	DISCHARGE WATER	Effluent Standard of MOI (Not excess)	Navanakorn standard
	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)		
Sampling Date	16-Nov-23	16-Nov-23		
Sampling Time				
Fluoride mg/l as F	ND	ND	-	8
Copper mg/l as Cu	0.51	0.05	2	1
Manganese mg/l as Mn	0.22	0.04	5	5
Zinc mg/l as Zn	0.19	0.01	5	5
Cyanide mg/l as CN	0.44	0.03	0.2	5
Aluminium mg/l as Al	295.00	1.31	-	5
Barium mg/l as Ba	0.41	0.05	1	1
Cadmium mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	1.89	< 0.1	0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	0.17	< 0.1	0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel mg/l as Ni	11.44	0.19	1	1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02	1
Cobalt mg/l as Co	<0.05	<0.05	-	-
Remark :				

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1201

Lab No.: 03-0-88018-FL1518

4-Jan-24

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	DISCHARGE WATER  WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		15-Dec-23	15-Dec-23		
Sampling Time					
Odour		-	not disagreeable	-	-
Color (ADMI)	ADMI	30	21	300	300
pH	-	4.35	7.31	5.5 - 9.0	6.0 - 9.0
Temperature	°C	30	30	-	-
Iron (AAS)	mg/l as Fe	2.03	0.10	-	5
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	570.00	741.50	-	-
Total Dissolved Solids	mg/l	1860	2965	3000	3000
Suspended Solids	mg/l	800	20	50	500
COD(Cr)	mg/l as O <sub>2</sub>	< 25	16	120	600
BOD	mg/l as O <sub>2</sub>	< 3	7	20	450
Oil & Grease	mg/l	3.1	2.5	5	100
Formaldehyde	mg/l as HCHO	< 0.12	< 0.12	1	1
Phenolic	mg/l as phenol	0.006	0.004	1	10
Total Kjeldahl Nitrogen	mg/l as N	1.10	6.40	100	100
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section A Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1201

Lab No.: 03-0-88018-FL1518

4-Jan-24


ITEM NAME \ SAMPLE NAME	RAW WASTE WATER	DISCHARGE WATER	Effluent Standard of MOI (Not excess)	Navanakom standard
	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)	WWTP1 (ระบบบำบัดน้ำเสีย WWT ST-Plant)		
Sampling Date	15-Dec-23	15-Dec-23		
Sampling Time				
Fluoride mg/l as F	ND	ND	-	8
Copper mg/l as Cu	0.37	0.05	2	1
Manganese mg/l as Mn	0.17	0.06	5	5
Zinc mg/l as Zn	0.16	0.02	5	5
Cyanide mg/l as CN <sup>-</sup>	0.11	< 0.010	0.2	5
Aluminium mg/l as Al	258.60	0.55	-	5
Barium mg/l as Ba	0.11	0.09	1	1
Cadmium mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	1.78	< 0.1	0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND	ND	0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel mg/l as Ni	0.64	0.10	1	1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02	1
Cobalt mg/l as Co	< 0.05	< 0.05	-	-
Remark :				

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0701

Lab No.: 03-0-88018-FG2627

21-Aug-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER  WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of  MOI (Not excess)	Navanakorn standard
Sampling Date		26-Jul-23	26-Jul-23		
Sampling Time					
Odour		not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	42	31	300	300
pH	-	12.36	8.23	5.5 - 9.0	6.0 - 9.0
Temperature	°C	32	32	-	-
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	203.80	474.60	-	-
Total Dissolved Solids	mg/l	2098	970	3000	3000
Suspended Solids	mg/l	115	4	50	500
COD(Cr)	mg/l as O <sub>2</sub>	5395	52	120	600
BOD	mg/l as O <sub>2</sub>	3900	< 3	20	450
Oil & Grease	mg/l	15.0	< 1	5	100
Formaldehyde	mg/l as HCHO	16.80	0.68	1	1
Phenolic	mg/l as phenol	0.055	0.003	1	10
Total Kjeldahl Nitrogen	mg/l as N	34.70	3.30	100	100
Fluoride	mg/l as F	0.55	0.50	-	8
Remark :					


Report results refer to submitted sample(s) only



Manager: \_\_\_\_\_

Sale representative: \_\_\_\_\_

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostern Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0701

Lab No.: 03-0-88018-FG2627


21-Aug-23

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER	DISCHARGE WATER	Effluent Standard of MOI. (Not excess)	Navanakorn standard
	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )		
Sampling Date	26-Jul-23	26-Jul-23		
Sampling Time				
Copper mg/l as Cu	0.02	0.02	2	1
Manganese mg/l as Mn	0.05	0.01	5	5
Zinc mg/l as Zn	0.12	0.02	5	5
Cyanide mg/l as CN	< 0.010	ND	0.2	5
Aluminium mg/l as Al	3.50	0.26	-	5
Barium mg/l as Ba	0.02	0.06	1	1
Cadmium mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	< 0.1	< 0.1	0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND	ND	0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel mg/l as Ni	0.26	< 0.015	1	1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02	1
Iron (AAS) mg/l as Fe	1.86	0.22	-	5
Cobalt mg/l as Co	< 0.05	< 0.05	-	-
Remark :				

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0801

Lab No.: 03-0-88018-FH1821

7-Sep-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		17-Aug-23	17-Aug-23		
Sampling Time					
Odour	-	not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	144	130	300	300
pH	-	12.78	7.88	5.5 - 9.0	6.0 - 9.0
Temperature	°C	31.5	31.5	-	-
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	410.20	429.00	-	-
Total Dissolved Solids	mg/l	6376	1118	3000	3000
Suspended Solids	mg/l	160	7	50	500
COD(Cr)	mg/l as O <sub>2</sub>	10321	42	120	600
BOD	mg/l as O <sub>2</sub>	5400	6	20	450
Oil & Grease	mg/l	13.4	4.0	5	100
Formaldehyde	mg/l as HCHO	76.25	0.54	1	1
Phenolic	mg/l as phenol	0.138	0.021	1	10
Total Kjeldahl Nitrogen	mg/l as N	77.80	4.40	100	100
Fluoride	mg/l as F	1.70	0.38	-	8
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager: \_\_\_\_\_

Sale representative: \_\_\_\_\_

Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0801

Lab No.: 03-0-88018-FH1821


7-Sep-23

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER		DISCHARGE WATER		Effluent Standard of MOI (Not excess)	Navanakorn standard
	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )		WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )			
Sampling Date	17-Aug-23		17-Aug-23			
Sampling Time						
Copper mg/l as Cu	0.29		0.03		2	1
Manganese mg/l as Mn	0.09		0.02		5	5
Zinc mg/l as Zn	0.64		0.03		5	5
Cyanide mg/l as CN	ND		ND		0.2	5
Aluminium mg/l as Al	40.70		0.35		-	5
Barium mg/l as Ba	10.95		0.06		1	1
Cadmium mg/l as Cd	< 0.004		< 0.004		0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	0.23		< 0.1		0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND		ND		0.25	0.25
Lead mg/l as Pb	< 0.16		< 0.16		0.2	1
Mercury mg/l as Hg	< 0.0004		< 0.0004		0.005	0.01
Nickel mg/l as Ni	0.37		< 0.015		1	1
Selenium mg/l as Se	< 0.0004		< 0.0004		0.02	1
Iron (AAS) mg/l as Fe	4.41		0.31		-	5
Cobalt mg/l as Co	< 0.05		< 0.05		-	-
Remark :						

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0901

Lab No.: 03-0-88018-FI1518

26-Sep-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of MOI (Not excess)	Navanakom standard
Sampling Date		15-Sep-23	15-Sep-23		
Sampling Time					
Odour		-	not disagreeable	-	-
Color (ADMI)	ADMI	36	30	300	300
pH	-	12.63	7.84	5.5 - 9.0	6.0 - 9.0
Temperature	°C	32	32	-	-
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	213.00	156.80	-	-
Total Dissolved Solids	mg/l	4328	544	3000	3000
Suspended Solids	mg/l	49	< 2.5	50	500
COD(Cr)	mg/l as O <sub>2</sub>	9289	35	120	600
BOD	mg/l as O <sub>2</sub>	4000	4	20	450
Oil & Grease	mg/l	9.8	2.0	5	100
Formaldehyde	mg/l as HCHO	33.07	0.54	1	1
Phenolic	mg/l as phenol	0.306	0.001	1	10
Total Kjeldahl Nitrogen	mg/l as N	49.80	0.20	100	100
Fluoride	mg/l as F	0.35	0.28	-	8
Remark :					


Report results refer to submitted sample(s) only



Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-0901

Lab No.: 03-0-88018-F11518

26-Sep-23


ITEM NAME \ SAMPLE NAME		RAW WASTE WATER WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		15-Sep-23	15-Sep-23		
Sampling Time					
Copper	mg/l as Cu	0.09	0.02	2	1
Manganese	mg/l as Mn	0.10	0.01	5	5
Zinc	mg/l as Zn	0.13	0.12	5	5
Cyanide	mg/l as CN <sup>-</sup>	ND	ND	0.2	5
Aluminium	mg/l as Al	9.78	0.21	-	5
Barium	mg/l as Ba	2.79	0.06	1	1
Cadmium	mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium	mg/l as Cr <sup>3+</sup>	0.20	< 0.1	0.75	0.75
Hexavalent Chromium	mg/l as Cr <sup>6+</sup>	ND	ND	0.25	0.25
Lead	mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury	mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel	mg/l as Ni	0.17	< 0.015	1	1
Selenium	mg/l as Se	< 0.0004	< 0.0004	0.02	1
Iron (AAS)	mg/l as Fe	3.08	0.36	-	5
Cobalt	mg/l as Co	< 0.05	< 0.05	-	-
Remark :					

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1001

Lab No.: 03-0-88018-FJ0910

20-Oct-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		6-Oct-23	6-Oct-23		
Sampling Time					
Odour		not disagreeable	not disagreeabl	-	-
Color (ADMI)	ADMI	52	38	300	300
pH	-	12.70	7.65	5.5 - 9.0	6.0 - 9.0
Temperature	°C	31	31	-	-
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	146.00	403.60	-	-
Total Dissolved Solids	mg/l	5358	1148	3000	3000
Suspended Solids	mg/l	114	6	50	500
COD(Cr)	mg/l as O <sub>2</sub>	7155	54	120	600
BOD	mg/l as O <sub>2</sub>	3300	6	20	450
Oil & Grease	mg/l	5.2	< 1	5	100
Formaldehyde	mg/l as HCHO	20.64	0.75	1	1
Phenolic	mg/l as phenol	0.055	0.005	1	10
Total Kjeldahl Nitrogen	mg/l as N	38.00	2.80	100	100
Fluoride	mg/l as F	0.66	0.37	-	8
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1001

Lab No.: 03-0-88018-FJ0910


20-Oct-23

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER	DISCHARGE WATER	Effluent Standard of MOI (Not excess)	Navanakorn standard
	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )		
Sampling Date	6-Oct-23	6-Oct-23		
Sampling Time				
Copper mg/l as Cu	0.14	0.07	2	1
Manganese mg/l as Mn	0.12	0.02	5	5
Zinc mg/l as Zn	0.18	0.05	5	5
Cyanide mg/l as CN	ND	ND	0.2	5
Aluminium mg/l as Al	7.84	0.48	-	5
Barium mg/l as Ba	3.35	0.07	1	1
Cadmium mg/l as Cd	< 0.004	< 0.004	0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	0.18	< 0.1	0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND	ND	0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel mg/l as Ni	0.25	< 0.015	1	1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02	1
Iron (AAS) mg/l as Fe	4.75	0.23	-	5
Cobalt mg/l as Co	< 0.05	< 0.05	-	-
Remark :				

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1101

Lab No.: 03-0-88018-FK1617

1-Dec-23

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		16-Nov-23	16-Nov-23		
Sampling Time					
Odour		not disagreeable	not disagreeable	-	-
Color (ADMI)	ADMI	29	21	300	300
pH	-	13.17	8.21	5.5 - 9.0	6.0 - 9.0
Temperature	°C	30.5	30.5	-	-
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	17.92	29.94	-	-
Total Dissolved Solids	mg/l	10268	1074	3000	3000
Suspended Solids	mg/l	178	3	50	500
COD(Cr)	mg/l as O <sub>2</sub>	3695	33	120	600
BOD	mg/l as O <sub>2</sub>	300	< 3	20	450
Oil & Grease	mg/l	16.6	3.0	5	100
Formaldehyde	mg/l as HCHO	14.92	0.60	1	1
Phenolic	mg/l as phenol	0.002	0.001	1	10
Total Kjeldahl Nitrogen	mg/l as N	41.40	4.20	100	100
Fluoride	mg/l as F	8.20	< 0.20	-	8
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.



Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1101

Lab No.: 03-0-88018-FK1617


1-Dec-23

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER	DISCHARGE WATER	Effluent Standard of MOI (Not excess)	Navanakorn standard
	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )		
Sampling Date	16-Nov-23	16-Nov-23		
Sampling Time				
Copper mg/l as Cu	0.25	< 0.006	2	1
Manganese mg/l as Mn	0.28	0.01	5	5
Zinc mg/l as Zn	0.35	0.03	5	5
Cyanide mg/l as CN	ND	ND	0.2	5
Aluminium mg/l as Al	19.49	0.56	-	5
Barium mg/l as Ba	5.20	0.12	1	1
Cadmium mg/l as Cd	0.33	< 0.004	0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	< 0.1	< 0.1	0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	0.15	ND	0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16	0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004	0.005	0.01
Nickel mg/l as Ni	0.24	< 0.015	1	1
Selenium mg/l as Se	< 0.0004	< 0.0004	0.02	1
Iron (AAS) mg/l as Fe	13.45	0.32	-	5
Cobalt mg/l as Co	< 0.05	< 0.05	-	-
Remark :				

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakarn 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1201

Lab No.: 03-0-88018-FL1518

4-Jan-24

ITEM NAME \ SAMPLE NAME		RAW WASTE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	DISCHARGE WATER  WWTP 2 ( ระบบบำบัดน้ำเสีย WWT-IR )	Effluent Standard of MOI (Not excess)	Navanakorn standard
Sampling Date		15-Dec-23	15-Dec-23		
Sampling Time					
Odour		-	not disagreeable	-	-
Color (ADMI)	ADMI	612	39	300	300
pH	-	12.83	8.03	5.5 - 9.0	6.0 - 9.0
Temperature	°C	30	30	-	-
Sulfate	mg/l as SO <sub>4</sub> <sup>2-</sup>	330.00	524.50	-	-
Total Dissolved Solids	mg/l	6126	1428	3000	3000
Suspended Solids	mg/l	120	7	50	500
COD(Cr)	mg/l as O <sub>2</sub>	7632	33	120	600
BOD	mg/l as O <sub>2</sub>	220	3	20	450
Oil & Grease	mg/l	14.6	3.5	5	100
Formaldehyde	mg/l as HCHO	42.31	0.44	1	1
Phenolic	mg/l as phenol	0.007	0.002	1	10
Total Kjeldahl Nitrogen	mg/l as N	78.60	4.70	100	100
Fluoride	mg/l as F	0.38	0.34	-	8
Remark :					

Report results refer to submitted sample(s) only




KURITA-GK

Manager:

Sale representative:

Thitima T.

Customer name:	KURITA-GK CHEMICAL CO., LTD.	
Tostem Thai Co., Ltd.	460 Moo 17 Bangphli Industrial Estate	
Project name:	Bangsaothong, Bangsaothong district, Samutprakam 10570	
Surface Section C Line	Tel. (66)2-315-2300 Fax. (66)2-315-2301-2	

## WASTE WATER ANALYSIS REPORT

Reference No.: SD22-1052-1201

Lab No.: 03-0-88018-FL1518

4-Jan-24

ITEM NAME \ SAMPLE NAME	RAW WASTE WATER		DISCHARGE WATER	Effluent Standard of MOI (Not excess)	Navanakom standard
	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )	WWTP 2 (ระบบบำบัดน้ำเสีย WWT-IR )			
Sampling Date	15-Dec-23	15-Dec-23			
Sampling Time					
Copper mg/l as Cu	0.18	0.05		2	1
Manganese mg/l as Mn	0.10	0.02		5	5
Zinc mg/l as Zn	0.18	0.03		5	5
Cyanide mg/l as CN	ND	ND		0.2	5
Aluminium mg/l as Al	8.25	0.37		-	5
Barium mg/l as Ba	2.85	0.06		1	1
Cadmium mg/l as Cd	< 0.004	< 0.004		0.03	1
Trivalent Chromium mg/l as Cr <sup>3+</sup>	0.11	< 0.1		0.75	0.75
Hexavalent Chromium mg/l as Cr <sup>6+</sup>	ND	ND		0.25	0.25
Lead mg/l as Pb	< 0.16	< 0.16		0.2	1
Mercury mg/l as Hg	< 0.0004	< 0.0004		0.005	0.01
Nickel mg/l as Ni	0.16	< 0.015		1	1
Selenium mg/l as Se	< 0.0004	< 0.0004		0.02	1
Iron (AAS) mg/l as Fe	4.83	0.20		-	5
Cobalt mg/l as Co	< 0.05	< 0.05		-	-
Remark :					

Report results refer to submitted sample(s) only

Manager:  KURITA-GK

Sale representative: Thitima T.



ผลการวิเคราะห์น้ำทิ้งอุตสาหกรรม  
บริษัท โกชู เทคโนโลยีส์ จำกัด









# GOSHU TECHNOSERVICE CO., LTD.

## RECOMMENDATION OF WASTEWATER ANALYSIS

DATE July 24, 2023  
NO. 07MW2-009

CUSTOMER : TOSTEM THAI CO., LTD.  
SAMPLING DATE : July 7, 2023

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	C+3 (mg/L)	Cr+6 (mg/L)	Temp (°C)
STANDARD OF WASTEWATER	5.5-9.0	3000	50	120	20	300	300	5	-	-	0.2	1	2	-	-	5	0.75	0.25	40
SAMPLE NAME	VALUE																		
Outlet WWTP#3 (PT1)	NORMAL	7.62	<100	<30	<2	<5	<5	<1.0	<0.30	ND	<0.05	<0.30	ND	3.3	0.08	1.28	<0.10	<0.10	30
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		

Remark : ND = Non-detected

RECOMMENDATION : น้ำทิ้ง Outlet WWTP#3 (PT1) มีค่าอยู่ในเกณฑ์มาตรฐานน้ำทิ้งของ MOI

REPORTED BY

GOSHU TECHNOSERVICE CO. LTD.

Ms. Soraya Wichitpanya

Technical Section

MD0-FM-009-01 REV



บริษัท โกชู โคซัน จำกัด  
GOSHU KOHSAN CO., LTD.

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
70 MOO 5 KINGKAEW ROAD., RACHATHEVA, BANGPHLI, SAMUTPRAKARN 10540 THAILAND.  
TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

**Customer name** Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongmuang,  
Klongmuang, Pathumthani 12120

**Project**

**Sample name** Raw Waste WWTP #3 (PT.1)

**Receiving date** 10/7/2023

**Reporting date** 20/7/2023

**Sample no.** 071004 (**Reference no.** M22307822)

**Sampling date** 7/7/2023

**Analytical date** 10-17/7/2023

**Sampling by** Goshu Technoservice

**Sample Appearance** Colorless Slightly Suspended Solution GKC Bottle

**Report no.** 07MW2-009-01/2

**Page** 1 of 2

Item	Result	Method	LOG
pH	6.64	at site	-
**Total Dissolved Solids (mg/L)	194	*SM2017:2540C Total Dissolved Solids Dried at 180 {o}C	100
**Total Suspended Solids (mg/L)	32	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 {o}C	10
**COD (mg/L)	<30	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux,Titrimetric	30
BOD (mg/L)	5	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	1.4	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
**Zinc (mg/L)	7.61	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
**Chromium (mg/L)	ND	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

**Remark:** รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to Department of industrial Works, Ministry of industry)

Cr ND = <0.01 mg/L, Cu ND <0.01 mg/L

GOSHU KOHSAN CO., LTD.

Approved by: Ms. Watcharee Thongsanga

Approved Date: 20/7/2023



**บริษัท โกชู โคซัน จำกัด**  
**GOSHU KOHSAN CO., LTD.**

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
70 MOO 5 KINGKAEW ROAD., RACHATHEVA, BANGPHLI, SAMUTPRAKARN 10540 THAILAND.  
TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

**WASTE WATER ANALYSIS REPORT**

**Customer name** Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongnuang, Pathumthani 12120

**Project**

**Sample name** Raw Waste WWTP # 3 (PT.1)

**Receiving date** 10/7/2023

**Reporting date** 20/7/2023

**Sample no.** 071004 (Reference no. M22307022)

**Sampling date** 7/7/2023

**Analytical date** 10-17/7/2023

**Sampling by** Goshu Technoservice

**Sample Appearance** Colorless Slightly Suspended Solution GKC Bottle

**Report no.** 07MW2-009-01/2

**Page** 2 of 2

Item	Result	Method	LOQ
**Nickel (mg/L)	1.26	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.20
Sulfate Ion (mg/L)	3.2	*SM2017:4500-SO <sub>4</sub> (2-)-E Turbidimetric	-
Aluminium (mg/L)	0.40	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

**Remark:** รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถขึ้นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)  
Cr ND = <0.01 mg/L, Cu ND <0.04 mg/L

**GOSHU KOHSAN CO., LTD.**  
Ms. Watcharee Thongtunga

Approved by:

Approved Date 20/7/2023





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GOSHU KOHSAN CO., LTD.

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
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TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Testern Thai Co., Ltd.

Navanakorn Industrial Estate Zone 2,  
60/2 Moo 12, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 10/7/2023

Reporting date 20/7/2023

Sample no. 071005

(Reference no. 3122307022)

Sampling date 7/7/2023

Analytical date 10-17/7/2023

Sampling by Goshu Techeservice

Sample Appearance Colorless Slightly Suspended Solution OKC Bottle

Report no. 07MW2-009-02/2

Page 1 of 2

Item	Result	Method	LOQ
pH	7.62	at site	-
**Total Dissolved Solids (mg/L)	<100	*SM2017:2540C Total Dissolved Solids Dried at 180 {o}C	100
**Total Suspended Solids (mg/L)	<10	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 {o}C	10
**COD (mg/L)	<30	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux Titrimetric	30
BOD (mg/L)	<2	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	<1.0	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Zinc (mg/L)	1.28	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	ND	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\*\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารรถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)  
Cr ND = <0.01 mg/L, Cu ND = <0.01 mg/L

GOSHU KOHSAN CO., LTD.

Approved by: Ms. Watcharee Thongsanga

Approved Date: 20/7/2023



บริษัท โกชู โคซัน จำกัด  
GOSHU KOHSAN CO., LTD.

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostem Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 10/7/2023

Reporting date 20/7/2023

Sample no. 071005 (Reference no. M222070221)

Sampling date 7/7/2023

Analytical date 10-17/7/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GKC Bottle

Report no. 07MW2-009-02/2

Page 2 of 2

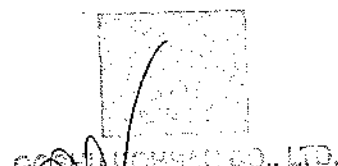
Item	Result	Method	LOQ
**Nickel (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120E Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	3.3	*SM2017:4500-SO <sub>4</sub> [2-]-E Turbidimetric	-
Aluminum (mg/L)	0.08	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)  
Cr ND = <0.01 mg/L, Cu ND <0.04 mg/L



Approved by: Ms. Wararadee Thongsanga

Approved Date 20/7/2023

# GOSHU TECHNOSERVICE CO., LTD.

## RECOMMENDATION OF WASTEWATER ANALYSIS

CUSTOMER : TOSTEM THAI CO., LTD. DATE August 11, 2023  
 SAMPLING DATE : August 2, 2023 NO. 08MW2-008

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	Cr+3 (mg/L)	Cr+6 (mg/L)	Temp. (°C)
STANDARD OF WASTEWATER Navanakorn IZ.	6.0 - 9.0	3000	500	600	450	300	300	100	5	-	1	1	1	-	5	5	0.75	0.25	45
SAMPLE NAME	VALUE																		
Outlet WWTP#3 (PT1)	NORMAL	7.48	126	19	32	11	<5	1.4	<0.30	<0.10	<0.05	0.77	ND	7.9	0.31	3.78	<0.10	<0.10	31
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
REMARK : ND = Non-detected																			
RECOMMENDATION : บั๊ตถื Outlet WWTP#3 (PT1) มีค่าอยู่ในเกณฑ์มาตรฐานน้ำทิ้งของ Navanakorn IZ.																			
GOSHU TECHNOSERVICE CO., LTD. Soraya Ms. Soraya Wichitpanya Technical Section																			
REPORTED BY																			



# GOSHU TECHNOSERVICE CO., LTD.

## RECOMMENDATION OF WASTEWATER ANALYSIS

DATE August 31, 2023  
NO. 08MW2-022

CUSTOMER : TOSTEM THAI CO., LTD.  
SAMPLING DATE : August 21, 2023

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	Cr+3 (mg/L)	Cr+6 (mg/L)	Temp (°C)
STANDARD OF WASTEWATER	5.5-9.0	3000	50	120	20	300	300	5	-	-	0.2	1	2	-	-	-	5	0.75	40
SAMPLE NAME	VALUE																		
Outlet WWTP#3 (PT1)	NORMAL	126	19	32	11	<5	<5	1.4	<0.30	<0.10	<0.05	0.77	ND	7.9	0.31	3.78	<0.10	<0.10	31
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		

REMARK : ND = Non-detected															REPORTED BY				
RECOMMENDATION : น้ำทิ้ง Outlet WWTP#3 (PT1) มีค่าอยู่ในเกณฑ์มาตรฐานน้ำทิ้งของ MOI															GOSHU TECHNOSERVICE CO., LTD.				
															Ms. Soraya Wichitpanya				
															Technical Section				



บริษัท โกชู โคซัน จำกัด  
GOSHU KOHSAN CO., LTD.

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
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TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Testem Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongmueng,  
Klongkruang, Pathumthani 12120

Project

Sample name Raw Waste WWTP # 3 (PT.1)

Receiving date 23/8/2023

Reporting date 29/8/2023

Sample no. 082304 (Reference no. M223060-11)

Sampling date 21/8/2023

Analytical date 23-29/8/2023

Sampling by Goshu Technoservice

Sample Appearance Light White Slightly Suspended Solution GKC Bottle

Report no. 08MW2-022-01/2

Page 1 of 2

Item	Result	Method	LOQ
pH	6.65	at site	-
**Total Dissolved Solids (mg/L)	392	*SM2017:2540C Total Dissolved Solids Dried at 180 {o}C	190
**Total Suspended Solids (mg/L)	97	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 {o}C	10
**COD (mg/L)	139	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	20
BOD (mg/L)	61	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	5.9	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	0.54	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.20
Zinc (mg/L)	21.7	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถขึ้นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of industrial Works, Ministry of industry)  
Copper ND <0.04 mg/L

Approved by:

Ms. Watcharee Thongsanga

Approved Date 29/8/2023

REPORT RESULT IS ONLY OF THE SAMPLE SUBMITTED FOR ANALYSIS THIS ANALYSIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THE  
LABORATORY OF GOSHU KOHSAN CO., LTD

LAB-FR-001-FR007 (Rev.0)



บริษัท โกชู โคซัน จำกัด  
GOSHU KOHSAN CO., LTD.

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
70 MOO 5 KINGKAEW ROAD, RACHATHEVA, BANGPHLI, SAMUTPRAKARN 10540 THAILAND.  
TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostem Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12120

Sample no. 062304 (Reference no. M22308041)  
Sampling date 21/8/2023  
Analytical date 23-29/8/2023  
Sampling by Goshu Technicservice

Sample name Raw Waste WWTP # 3 (PT.1)  
Sample Appearance Light White Slightly Suspended Solution GKC Bottle

Receiving date 23/8/2023 Reporting date 29/8/2023 Report no. 08MW2-022-01/2 Page 2 of 2

Item	Result	Method	LOQ
**Nickel (mg/L)	4.42	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	25	*SM2017:4500-SO <sub>4</sub> [2-]-E Turbidimetric	-
Aluminium (mg/L)	1.81	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	14	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	13	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celcius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้

(This report is for internal use only is not allowed to submit to the Department of industrial Works, Ministry of industry)

Copper ND <0.04 mg/L

Approved by:

Ms. Watcharee Thongsanga

Approved Date 29/8/2023

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LAB-PR-001-FM007 (Rev.0)





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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Postern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2.  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongnueng, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 23/8/2023 Reporting date 28/8/2023 Report no. 03MW2-022-02/2 Page 1 of 2

Sample no. 682305 (Reference no. M22306041)

Sampling date 21/8/2023

Analytical date 23-29/8/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GEC Bottle

Item	Result	Method	LOQ
pH	7.48	at site	-
**Total Dissolved Solids (mg/L)	126	*SM2017:2516C Total Dissolved Solids Dried at 180 (±)C	100
**Total Suspended Solids (mg/L)	19	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 (±)C	10
**COD (mg/L)	32	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	30
BOD (mg/L)	11	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	1.4	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Zinc (mg/L)	3.78	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)

Copper ND <0.04 mg/L

Approved by:

Ms. Watcharee Thongsanga

Approved Date 28/8/2023

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LABORATORY OF GOSHU KOHSAN CO., LTD.

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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
50/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 23/8/2023 Reporting date 28/8/2023 Report no. 08MW2-022-02/2 Page 2 of 2

Sample no. 082305 (Reference no. M22308041)

Sampling date 21/8/2023

Analytical date 23-29/8/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GKC Bottle

Item	Result	Method	LOQ
**Nickel (mg/L)	0.77	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	7.9	*SM2017:4500-SO <sub>4</sub> [2-]-E Turbidimetric	-
Aluminium (mg/L)	0.31	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	31	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)  
Copper ND <0.04 mg/L

GOSHU KOHSAN CO., LTD.

Approved by: Ms Watcharee Thongsanga

Approved Date 28/8/2023

REPORT RESULT IS ONLY OF THE SAMPLE SUBMITTED FOR ANALYSIS THIS ANALYSIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THE  
LABORATORY OF GOSHU KOHSAN CO., LTD.

LAB-PR-001-FM-007 (Rev.0)

# GOSHU TECHNOSERVICE CO., LTD.

## RECOMMENDATION OF WASTEWATER ANALYSIS

DATE September 18, 2023  
NO. 09MW2-002

CUSTOMER : TOSTEM THAI CO., LTD.  
SAMPLING DATE : September 4, 2023

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	Cr+3 (mg/L)	Cr+6 (mg/L)	Temp (°C)
STANDARD OF WASTEWATER																			
MOI	5.5-9.0	3000	50	120	20	300	300	5	-	-	0.2	1	2	-	-	5	0.75	0.25	40
SAMPLE NAME	VALUE																		
Outlet WWTP#3 (PT1)	NORMAL	8.33	304	<30	9	<5	<5	<1.0	<0.30	<0.10	<0.05	<0.30	NID	58.0	0.31	NID	<0.10	<0.10	30
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		

Remark : NID = Non-detected

REPORTED BY

RECOMMENDATION : น้ำทิ้ง Outlet WWTP#3 (PT1) มีค่าอยู่ในเกณฑ์มาตรฐานน้ำทิ้งของ MOI

GOSHU TECHNOSERVICE CO., LTD.

Signature

Ms. Soraya Wichitpanya

Technical Section

MD0-FM-009-01 REV







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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Testam Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongkrang,  
Klongkrang, Pathumthani 12129

Project

Sample name Raw Waste WWTP #3 (PT.1)

Receiving date 6/9/2023 Reporting date 14/9/2023

Sample no. 090656 (Reference no. M22309022)

Sampling date 4/9/2023

Analytical date 6-13/9/2023

Sampling by Goshu Technoservice

Sample Appearance Dark White Slightly Suspended Solution GLC Bottle

Report no. 09MW2-002-01/2 Page 1 of 2

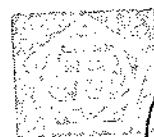
Item	Result	Method	LOQ
pH	7.15	at site	-
**Total Dissolved Solids (mg/L)	2028	*SM2017:2540C Total Dissolved Solids Dried at 180 (o)C	100
**Total Suspended Solids (mg/L)	88	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 (o)C	19
**COD (mg/L)	325	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	20
BOD (mg/L)	157	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	14.3	*SM2017:5620C Partition-Infrared	1.0
**Iron (mg/L)	0.58	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.20
**Zinc (mg/L)	<0.20	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.20
**Cadmium (mg/L)	1.99	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถขึ้นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
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Cu/Pb = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Mr. Watchara Thongsanga

Approved by:

Approved Date 14/9/2023



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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Teston Thai Co., Ltd.  
Navanokorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanokorn 11, Klongmuang,  
Klongmuang, Pathumthani 12120

Project

Sample name Raw Waste WWTP # 3 (FT.1)

Receiving date 6/9/2023 Reporting date 14/9/2023

Sample no. 090656 (Reference no. M22109022)

Sampling date 4/9/2023

Analytical date 6-13/9/2023

Sampling by Goshu Technoservice

Sample Appearance Dark White Slightly Suspended Solution GEC Bottle

Report no. 09MW2-002-01/2 Page 2 of 2

Item	Result	Method	LOQ
**Nickel (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	489	*SM2017:4500-SO <sub>4</sub> (2-)-B Turbidimetric	-
Aluminium (mg/L)	13.8	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	1.99	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH ( ADMI )	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 ( ADMI )	5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature ( degree celsius )	31	at site	

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อให้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
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Cu ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Approved by: Ms. Wathanae Thongsanga

Approved Date 14/9/2023



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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Testern Thua Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongmuang,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP #3 (PT.1)

Receiving date 6/9/2023

Reporting date 14/9/2023

Sample no. 990657 (Reference no. M22309022)

Sampling date 4/9/2023

Analytical date 6-13/9/2023

Sampling by Goshu Technoservice

Sample Appearance Light White Slightly Suspended Solution GRC Bottle

Report no. 09MW2-002-02/2

Page 1 of 2

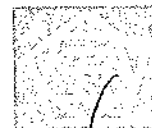
Item	Result	Method	LOQ
pH	8.33	at site	-
**Total Dissolved Solids (mg/L)	304	*SM2017:2540C Total Dissolved Solids Dried at 180{a}C	100
**Total Suspended Solids (mg/L)	<10	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105{a}C	10
**COD (mg/L)	<30	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	30
BOD (mg/L)	9	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	<1.0	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:2010E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Zinc (mg/L)	ND	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

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\*\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

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Zn ND = <0.06 mg/L, Cu ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Ms B. Narves Thongsanga

Approved by:

Approved Date 14/9 2023



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GOSHU KOHSAN CO., LTD.

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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Testam Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongkrueang,  
Klongkrueang, Pathumthani 12120

Sample no. 090657 (Reference no. M22309022)  
Sampling date 4/9/2023  
Analytical date 6-13/9/2023  
Sampling by Goshu Technoservice  
Sample Appearance Light White Slightly Suspended Solution GKC Bottle

Project  
Sample name Outlet WWTP # 3 (PT.1)  
Receiving date 6/9/2023 Reporting date 14/9/2023 Report no. 09MW2-002-02/2 Page 2 of 2

Item	Result	Method	LOQ
**Nickel (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	58	*SM2017:4500-SO <sub>4</sub> [4](2)-B Turbidimetric	-
Aluminum (mg/L)	0.31	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อให้ภายในเท่านั้นและไม่สามารถขึ้นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)  
Zn ND = <0.06 mg/L, Cu ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Ms. Wacharee Thongranga

Approved by:

Approved Date 14/9/2023









บริษัท โกชู โคซัน จำกัด  
GOSHU KOHSAN CO., LTD.

70 หมู่ 5 ถนนกิ่งแก้ว ตำบลราชาเทวะ อำเภอบางพลี สมุทรปราการ 10540  
70 MOO 5 KINGKAEW ROAD, RACHATHEVA, BANGPHLI, SAMUTPRAKARN 10540 THAILAND.  
TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnuang,  
Klongnuang, Pathumthani 12120

Project

Sample name Raw Waste WWTP # 3 (PT.1)

Receiving date 12/10/2023 Reporting date 25/10/2023 Report no. 10MW2-019-01/2 Page 1 of 2

Sample no. 101205 (Reference no. M22310022)

Sampling date 11/10/2023

Analytical date 12-25/10/2023

Sampling by Goshu Technoservice

Sample Appearance Light White Slightly Suspended Solution GKC Bottle

Item	Result	Method	LOQ
pH	6.68	at site	-
**Total Dissolved Solids (mg/L)	286	*SM2017:2540C Total Dissolved Solids Dried at 180 {o}C	100
**Total Suspended Solids (mg/L)	49	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 {o}C	10
**COD (mg/L)	45	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	30
BOD (mg/L)	3	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	2.5	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Zinc (mg/L)	14.2	*SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)

Copper ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.  
Ms. Watcharee Thongsanga

Approved by:

Approved Date 25/10/2023

REPORT RESULT IS ONLY OF THE SAMPLE SUBMITTED FOR ANALYSIS THIS ANALYSIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THE  
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LAB-PF-001-F1/2027 (Rev.0)



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GOSHU KOHSAN CO., LTD.

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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Testom Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klonghuang, Pathumthani 12120

Project

Sample name Raw Waste WWTP # 3 (PT.1)

Receiving date 12/10/2023 Reporting date 25/10/2023 Report no. 10MW2-019-01/2 Page 2 of 2

Sample no. 101205 (Reference no. M22310022)

Sampling date 11/10/2023

Analytical date 12-25/10/2023

Sampling by Goshu Technoservice

Sample Appearance Light White Slightly Suspended Solution GEC Bottle

Item	Result	Method	LOQ
**Nickel (mg/L)	4.42	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	17	*SM2017:4500-SO <sub>4</sub> {2-}-B Turbidimetric	-
Aluminium (mg/L)	0.48	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	6	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	6	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อให้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)  
Copper ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.  
Ms. Watcharee Thongsanga

Approved by:

Approved Date 25/10/2023

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LAB-PR-001-F1/007 (Rev G)





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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klonghlang, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 12/10/2023 Reporting date 25/10/2023 Report no. 10MW2-019-02/2 Page 1 of 2

Sample no. 101206 (Reference no. M22310022)

Sampling date 11/10/2023

Analytical date 12-25/10/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GEC Bottle

Item	Result	Method	LOQ
pH	7.46	at site	-
**Total Dissolved Solids (mg/L)	<100	*SM2017:2540C Total Dissolved Solids Dried at 180 {o}C	100
**Total Suspended Solids (mg/L)	<10	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 {o}C	10
**COD (mg/L)	<30	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	30
BOD (mg/L)	<2	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	<1.0	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Zinc (mg/L)	0.54	In house method LAB-SD-175 *SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030B Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of Industry)

Iron ND = <0.04 mg/L, Copper ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Approved by: Ms. Watcharee Thongsanga

Approved Date 25/10/2023

REPORT RESULT IS ONLY OF THE SAMPLE SUBMITTED FOR ANALYSIS THIS ANALYSIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE  
LABORATORY OF GOSHU KOHSAN CO., LTD.

LAB-PR-001-FM-037 (Rev.0)



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TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongmueng,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 12/10/2023 Reporting date 25/10/2023

Sample no. 101206 (Reference no. M22310022)

Sampling date 11/10/2023

Analytical date 12-25/10/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GEC Bottle

Report no. 10MW2-019-02/2 Page 2 of 2

Item	Result	Method	LOQ
**Nickel (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	1.1	*SM2017:4500-SO <sub>4</sub> (2)-E Turbidimetric	-
Aluminium (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

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Iron ND = <0.04 mg/L, Copper ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Approved by: Ms. Watcharee Thongsanga

Approved Date 25/10/2023

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LAB-PR-001-FM007 (Rev.0)

# GOSHU TECHNOSERVICE CO., LTD.

## RECOMMENDATION OF WASTEWATER ANALYSIS

DATE November 20, 2023  
NO. 11MW2-013

CUSTOMER : TOSTEM THAI CO., LTD.  
SAMPLING DATE : November 8, 2023

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	Cr+3 (mg/L)	Cr+6 (mg/L)	Temp. (°C)
STANDARD OF WASTEWATER Navanakorn IZ.	6.0 - 9.0	3000	500	600	450	300	300	100	5	-	1	1	1	-	5	5	0.75	0.25	45
SAMPLE NAME	VALUE																		
Outlet WWTP#3 (PT1)	NORMAL	7.26	<100	<30	3	<5	<5	<1.0	<0.30	<0.10	<0.05	0.30	<0.30	1.2	<0.05	1.07	<0.10	<0.10	29
	AB-NORMAL																		
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**GOSHU TECHNOSERVICE CO., LTD.**

## **RECOMMENDATION OF WASTEWATER ANALYSIS**

DATE	November 20, 2023
NO.	11MW2-013

CUSTOMER : TOSTEM THAI CO., LTD.  
SAMPLING DATE : November 8, 2023

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	Cr+3 (mg/L)	Cr+6 (mg/L)	Temp. (°C)
STANDARD OF WASTEWATER MOI	5.5-9.0	3000	50	120	20	300	300	5	-	-	0.2	1	2	-	-	5	0.75	0.25	40
SAMPLE NAME	VALUE																		
Outlet WWTP#3 (PT1)	NORMAL	7.26	<100	<30	3	<5	<5	<1.0	<0.30	<0.10	<0.05	0.30	<0.30	1.2	<0.05	1.07	<0.10	<0.10	29
	AB-NORMAL																		
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	AB-NORMAL																		
	NORMAL																		
	AB-NORMAL																		



RE

REMARK : ND = Non-detected

RECOMMENDATION : น้ำทิ้ง Outlet WWTP#3 (PT1) มีค่าอยู่ในเกณฑ์มาตรฐานน้ำทิ้งของ MOI

Signature: *Soraya*

Ms.Soraya Wichitpanya

Technical Section





บริษัท โกชู โคซัน จำกัด  
GOSHU KOHSAN CO., LTD.

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TEL: 0 2312-4159, 0 2312-4165-7, 0 2312-4171-5, 0 2750-3192-201 FAX: (662) 312-4162



TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostem Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klonghuang, Pathumthani 12120

Project

Sample name Raw Waste WWTP # 3 (PT.1)

Receiving date 10/11/2023

Reporting date 16/11/2023

Sample no. 111009 (Reference no. M22110022)

Sampling date 8/11/2023

Analytical date 10-16/11/2023

Sampling by Goshu Technoservice

Sample Appearance Light White Slightly Suspended Solution GKC Bottle

Report no. 11MWC-013-01/2

Page 1 of 2

Item	Result	Method	LOQ
pH	6.42	at site	-
**Total Dissolved Solids (mg/L)	229	*SM2017:2540C Total Dissolved Solids Dried at 180 (±)C	100
**Total Suspended Solids (mg/L)	38	In house method LAB-SD-112-02 *SM2017:2540D Total Suspended Solids Dried at 103-105 (±)C	10
**COD (mg/L)	44	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	20
BOD (mg/L)	14	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	<1.0	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Zinc (mg/L)	12.4	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\*\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
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Copper ND = <0.04 mg/L



GOSHU KOHSAN CO., LTD.

Approved by:

Ms. Watchara Thongsanga

Approved Date 16/11/2023

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LAB-PH-001-FR2027 (Rev.0)



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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostem Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongruang,  
Klongluang, Pathumthani 12120

Sample no. 111009 (Reference no. M22310022)  
Sampling date 8/11/2023  
Analytical date 10-16/11/2023  
Sampling by Goshu Technoservice  
Sample Appearance Light White Slightly Suspended Solution GRC Bottle

Project  
Sample name Raw Waste WWTP # 3 (PT.1)  
Receiving date 10/11/2023 Reporting date 16/11/2023 Report no. 11M2-013-01/2 Page 2 of 2

Item	Result	Method	LOQ
**Nickel (mg/L)	3.25	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	ND	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	9.0	*SM2017:4500-SO <sub>4</sub> (2-)-E Turbidimetric	-
Aluminum (mg/L)	0.67	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3020E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	7	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	7	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	30	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\*\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
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Copper ND = <0.04 mg/L



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Ms. Watchara Thongsanga

Approved by:

Approved Date 16/11/2023

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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostem Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP #3 (PT.1)

Receiving date 10/11/2023 Reporting date 16/11/2023 Report no. 11MW2-013-02/2 Page 1 of 2

Sample no. 111010 (Reference no. M22310022)

Sampling date 8/11/2023

Analytical date 10-16/11/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GKC Bottle

Item	Result	Method	LOQ
pH	7.26	at site	-
**Total Dissolved Solids (mg/L)	<100	*SM2017:25-10C Total Dissolved Solids Dried at 130 (a)C	100
**Total Suspended Solids (mg/L)	<10	In house method LAB-SD-112-02 *SM2017:25-40D Total Suspended Solids Dried at 103-105 (a)C	10
**COD (mg/L)	<30	In house method LAB-SD-114-07 *SM2017:5220C Closed Reflux, Titrimetric	30
BOD (mg/L)	3	*SM2017:5210B 5-Day BOD Test	2
Oil & Grease (mg/L)	<1.0	*SM2017:5520C Partition-Infrared	1.0
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Zinc (mg/L)	1.07	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Chromium (mg/L)	<0.10	In house method LAB-SD-175 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.10
Lead (mg/L)	<0.05	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

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Approved Date 16/11/2023

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TESTING  
No.0077

## WASTE WATER ANALYSIS REPORT

Customer name Tostern Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12120

Project

Sample name Outlet WWTP # 3 (PT.1)

Receiving date 10/11/2023 Reporting date 16/11/2023 Report no. 11MW2-013-02/2 Page 2 of 2

Sample no. 111010 (Reference no. M22310022)

Sampling date 8/11/2023

Analytical date 10-16/11/2023

Sampling by Goshu Technoservice

Sample Appearance Colorless Slightly Suspended Solution GEC Bottle

Item	Result	Method	LOQ
**Nickel (mg/L)	0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
**Copper (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.30
Sulfate Ion (mg/L)	1.2	*SM2017:4500-SO <sub>4</sub> [2-]-E Turbidimetric	-
Aluminium (mg/L)	0.07	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0.05
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.	0.10
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric	0.10
Color-at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Color-at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate	5
Temperature (degree celsius)	29	at site	-

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

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Approved Date 16/11/2023

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LAB-PR-001-FM097 (Rev.0)




# GOSHU TECHNOSERVICE CO., LTD.

## RECOMMENDATION OF WASTEWATER ANALYSIS

DATE December 15, 2023  
NO. 12MW2-003

CUSTOMER : TOSTEM THAI CO., LTD.  
SAMPLING DATE : December 6, 2023

ITEM	pH	TDS (mg/L)	SS (mg/L)	COD (Cr) (mg/L)	BOD (mg/L)	Color at pH Original (ADMI)	Color at pH 7 (ADMI)	Oil & Grease (mg/L)	Fe (mg/L)	Cr (mg/L)	Pb (mg/L)	Ni (mg/L)	Cu (mg/L)	Sulfate (mg/L)	Al (mg/L)	Zn (mg/L)	Cr+3 (mg/L)	Cr+6 (mg/L)	Temp. (°C)
STANDARD OF WASTEWATER Navanakorn IZ.	6.0 - 9.0	3000	500	800	450	300	300	100	5	-	1	1	1	-	5	5	0.75	0.25	45
SAMPLE NAME VALUE																			
Outlet WWTP#3 (PT1)	7.55	<100	<10	<30	5	<5	<5	<1.0	<0.30	<0.10	<0.05	0.56	<0.30	1.7	0.14	2.57	<0.10	<0.10	30
AB-NORMAL																			
NORMAL																			
AB-NORMAL																			
NORMAL																			
AB-NORMAL																			
NORMAL																			
AB-NORMAL																			
NORMAL																			
AB-NORMAL																			
REMARK : ND = Non-detected																			
RECOMMENDATION :	น้ำทิ้ง Outlet WWTP#3 (PT1) มีค่าอยู่ในเกณฑ์มาตรฐานที่แจ้งของ Navanakorn IZ.																		
<div><div></div><div><div>GOSHU TECHNOSERVICE CO., LTD.</div><div><div>Soraya</div><div>Ms. Soraya Wichitpanya</div></div><div>Technical Section</div></div></div>																			

## RECOMMENDATION OF WASTEWATER ANALYSIS

[illegible]

**GOSHU TECHNOSERVICE CO. LTD.**  
*Soraya*  
\_\_\_\_\_  
Ms. Soraya Wichitpanya  
**Technical Section**



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TESTING  
No.0077

**WASTE WATER ANALYSIS REPORT**

**Customer name** Testona Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2,  
69/2 Moo 19, Soi Navanakorn (1), Nongluang,  
Nongluang, Pathumthani 12120

**Project**

**Sample name** Raw Waste WWTP #1 (PT1)

**Receiving date** 6/12/2023

**Reporting date** 12/12/2023

**Sample no.** 120609 **(Reference no.)** M223J2023

**Sampling date** 6/12/2023

**Analytical date** 6-13-12/2023

**Sampling by** Goshu Testlab Service

**Sample Appearance** Light White Slightly Suspended Solution GLC Bottle

**Report no.** 121FW2-001-01/2

**Page** 1 **of** 2

Item	Result	Method	
pH	6.75	at site	
**Total Dissolved Solids (mg/L)	188	*SM12017:2549C Total Dissolved Solids Dried at 180 (±)C	1
**Total Suspended Solids (mg/L)	37	In house method LAB-SD-112-02 *SM12017:2545D Total Suspended Solids Dried at 103-105 (±)C	
**COD (mg/L)	43	In house method LAB-SD-114-07 *SM12017:5220C Closed Reflux, Titrimetric	
BOD (mg/L)	24	*SM12017:5210B 5-Day BOD Test	
Oil & Grease (mg/L)	<1.0	*SM12017:5520C Partition-Infrared	1
**Cu (mg/L)	<0.30	In house method LAB-SD-153-01 *SM12017:3030B Nitric Acid Digestion + ICP-MS Inductively Coupled Plasma	0
Zinc (mg/L)	10.8	*SM12017:3030B Nitric Acid Digestion + ICP-MS Inductively Coupled Plasma	0
Chromium (mg/L)	<0.10	*SM12017:3030B Nitric Acid Digestion + ICP-MS Inductively Coupled Plasma	0
Lead (mg/L)	<0.05	*SM12017:3030B Nitric Acid Digestion + ICP-MS Inductively Coupled Plasma	0

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

**Remark:** รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
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Approved by: Ms. Wachara Thongranga

Approved Date: 12/12/2023



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TESTING  
No.0077

**WASTE WATER ANALYSIS REPORT**

**Customer name** Testom Thai Co., Ltd.  
Navanakorn Industrial Estate Zone 2.  
60/2 Moo 19, Soi Navanakorn 11, Klongnueng,  
Klongluang, Pathumthani 12129

**Sample no.** 120609 (Reference no. M22112022)

**Sampling date** 6/12/2023

**Analytical date** 6-13-12/2023

**Sampling by** Goshu Technoservice

**Sample Appearance** Light White Slightly Suspended Solution GFC Bottle

**Project**

**Sample name** Raw Waste WWTP #3 (PT.1)

**Receiving date** 6/12/2023 **Reporting date** 13/12/2023 **Report no.** 12MW2-007-01/2 **Page** 2 **of** 2

Item	Result	Method	
**Nickel (mg/L)	2.52	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0
**Copper (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0
Sulfate Ion (mg/L)	3.8	*SM2017:4500-SO <sub>4</sub> (2-)-E Turbidimetric	
Aluminum (mg/L)	0.50	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma	0
Trivalent Chromium (mg/L)	<0.10	*SM2017:3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500 Cr B.	0
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3590-Cr B. Colorimetric	0
Color at the original pH (ADMI)	10	*SM2017:2120F ADMI Weighted-Ordinate	
Color at pH 7.0 (ADMI)	7	*SM2017:2120F ADMI Weighted-Ordinate	
Temperature (degree celsius)	29	at site	

\* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water

\* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil

\*\* Parameter = Parameter under scope of ISO/IEC 17025

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Approved by: Ms. Wachanee Thongnangka

Approved Date: 13/12/2023





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TESTING  
No.0077

**WASTE WATER ANALYSIS REPORT**

**Customer name** Testam Thai Co., Ltd  
Navamakon Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navamakon 11, Klongmuang,  
Klongkruang, Pathumthani 12120

**Project**

**Sample name** Outlet WWTP #3 (PI.1)

**Receiving date** 6/12/2023

**Reporting date** 13/12/2023

**Sample no.** 120610 (**Reference no.** MC2312022)

**Sampling date** 6/12/2023

**Analytical date** 6-13/12/2023

**Sampling by** Goshu Technoservice

**Sample Appearance** Colorless Slightly Suspended Solution GEC Bottle

**Report no.** 13M1W2-003-022

**Page** 1 **of** 2

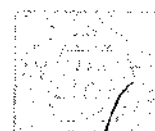
Item	Result	Method
pH	7.55	at site
** Total Dissolved Solids (mg/L)	<100	*SM2017/2540C Total Dissolved Solids Dried at 180 (±) °C
** Total Suspended Solids (mg/L)	<10	In house method LAB-SD-112-03 *SM2017/2540D Total Suspended Solids Dried at 103-105 (±) °C
**COD (mg/L)	<30	In house method LAB-SD-114-01 *SM2017/2220C Closed Reflux Titrimetric
BOD (mg/L)	5	*SM2017/5210B 5-Day BOD Test
Oil & Grease (mg/L)	<1.0	*SM2017/5520C Partition-Infrared
**Iron (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017/3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma
**Zinc (mg/L)	2.57	In house method LAB-SD-175 *SM2017/3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma
Chromium (mg/L)	<0.10	*SM2017/3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma
Lead (mg/L)	<0.05	*SM2017/3030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma

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\*\* Parameter = Parameter under scope of ISO/IEC 17025

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GOSHU KOHSAN CO., LTD.

Approved by:

Ms. Wanchana Thirapong

Approved Date: 13/12/2023



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TESTING  
No.0077

**WASTE WATER ANALYSIS REPORT**

Customer name **Tostem Thai Co., Ltd.**  
Navanakorn Industrial Estate Zone 2,  
60/2 Moo 19, Soi Navanakorn 11, Klongmuang,  
Klongmuang, Pathumthani 12126

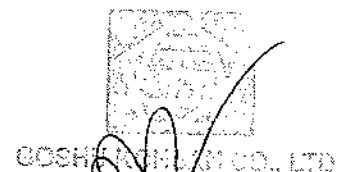
Sample no. 120610 (Reference no. M22312022)  
Sampling date 6/12/2023  
Analytical date 6-13/12/2023  
Sampling by Goshu Testservices  
Sample Appearance Colorless Slightly Suspended Solution GEC Bottle

Project  
Sample name **Outlet WWTP #3 (PT.1)**  
Receiving date 6/12/2023 Reporting date 13/12/2023 Report no. 12MFV2-003-02/2 Page 2 of 3

Item	Result	Method
*Niickel (mg/L)	0.56	In house method LAB-SD-152-01 *SM2017:5030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma
*Copper (mg/L)	<0.30	In house method LAB-SD-152-01 *SM2017:5030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma
Sulfate Ion (mg/L)	1.7	*SM2017:4500-SO(4)(2-)-B Turbidimetric
Aluminum (mg/L)	0.14	*SM2017:5030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma
Trivalent Chromium (mg/L)	<0.10	*SM2017:5030E Nitric Acid Digestion + 3120B Inductively Coupled Plasma + 3500-Cr B.
Hexavalent Chromium (mg/L)	<0.10	*SM2017:3500-Cr B. Colorimetric
Color at the original pH (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate
Color at pH 7.0 (ADMI)	<5	*SM2017:2120F ADMI Weighted-Ordinate
Temperature (degree celsius)	30	at site

- \* Base on Standard Methods for the Examination of Water and Wastewater (SM), APHA, AWWA, WEF for Wastewater and Ground water
- \* Base on Test Methods of Evaluating Soil Waste, Physical/Chemical Methods (SW-846) for Soil
- \*\* Parameter = Parameter under scope of ISO/IEC 17025

Remark: รายงานฉบับนี้เพื่อใช้ภายในเท่านั้นและไม่สามารถยื่นหรืออ้างอิงกับกรมโรงงานภายใต้กระทรวงอุตสาหกรรมได้  
(This report is for internal use only is not allowed to submit to the Department of Industrial Works, Ministry of industry)



Approved by: Ms. Wanasree Thongsungka

Approved Date 13/12/2023